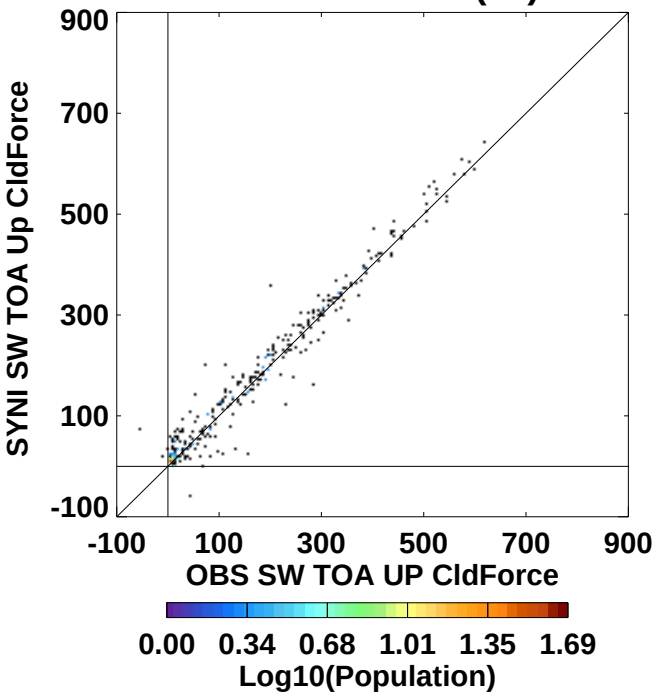
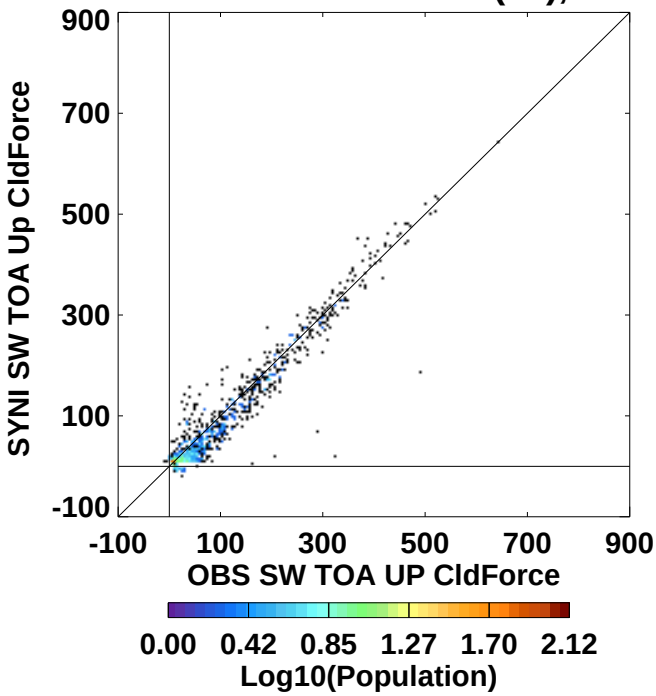
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## CldFor UT TOA SW UP(Hr)CERES



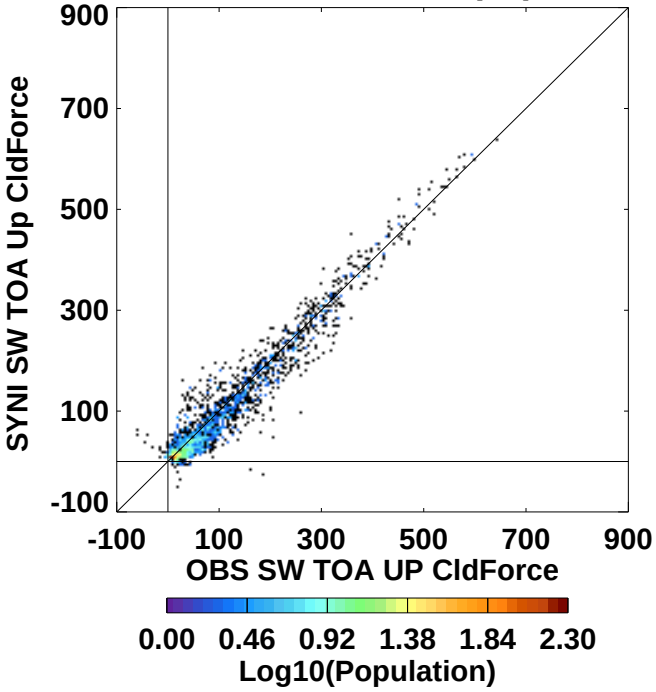

| N= 443. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA UP CldForce | 123.5( | 154.4) |
| SYNI SW TOA Up CldForce | 128.1( | 157.0) |
| Y-X | 4.58( | 26.18) |
| RMS( | 26.55)..... | |

## CldFor UT TOA SW UP(Hr),GEO



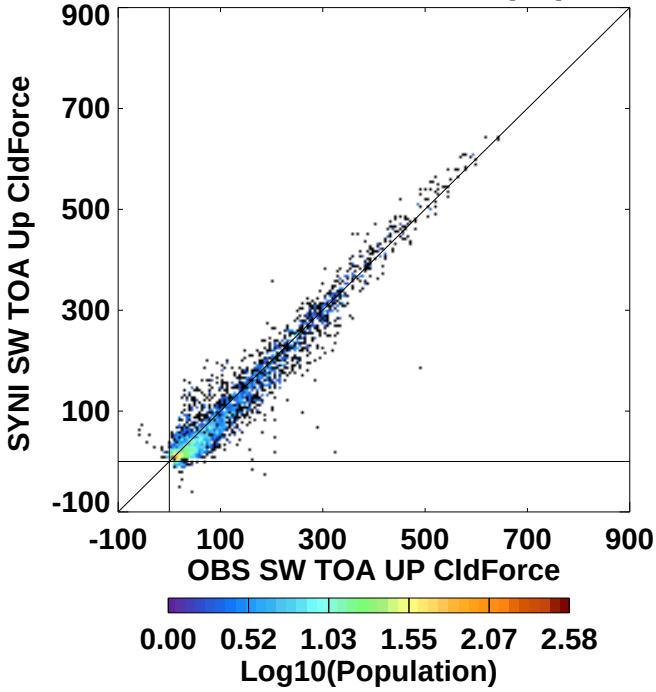

| N= 1198. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA UP CldForce | 88.34( | 109.4) |
| SYNI SW TOA Up CldForce | 79.69( | 110.4) |
| Y-X | -8.65( | 28.03) |
| RMS( | 29.32)..... | |

## CldFor UT TOA SW UP(Hr)INTERP




| N= 2739. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA UP CldForce | 84.94( | 110.5) |
| SYNI SW TOA Up CldForce | 79.47( | 111.1) |
| Y-X | -5.47( | 26.63) |
| RMS( | 27.18)..... | |

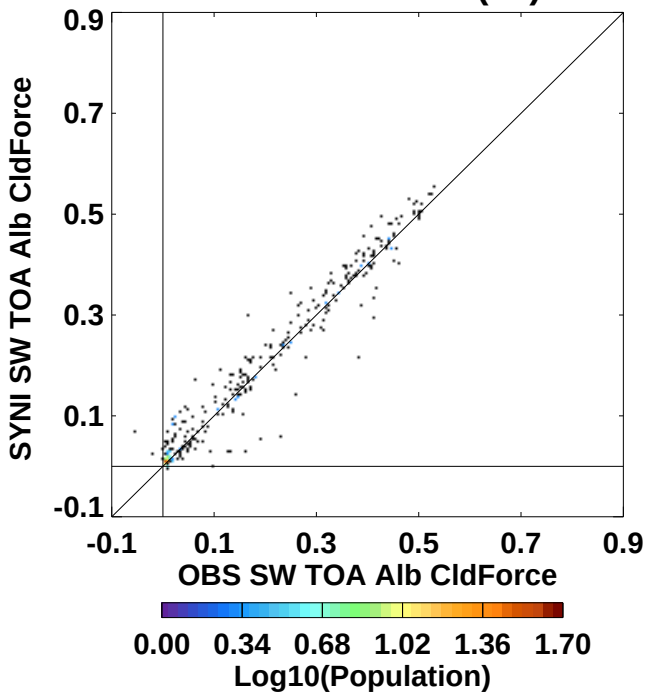
## CldFor UT TOA SW UP(Hr)ALL




| N= 4380. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA UP CldForce | 89.77( | 116.0) |
| SYNI SW TOA Up CldForce | 84.44( | 117.3) |
| Y-X | -5.33( | 27.21) |
| RMS( | 27.72)..... | |

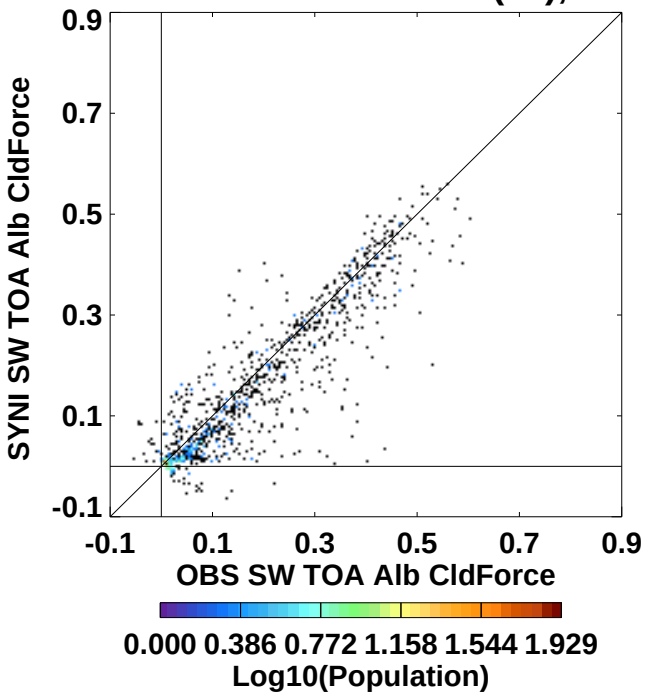
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## CldFor UT TOA SWALB(Hr)CERES



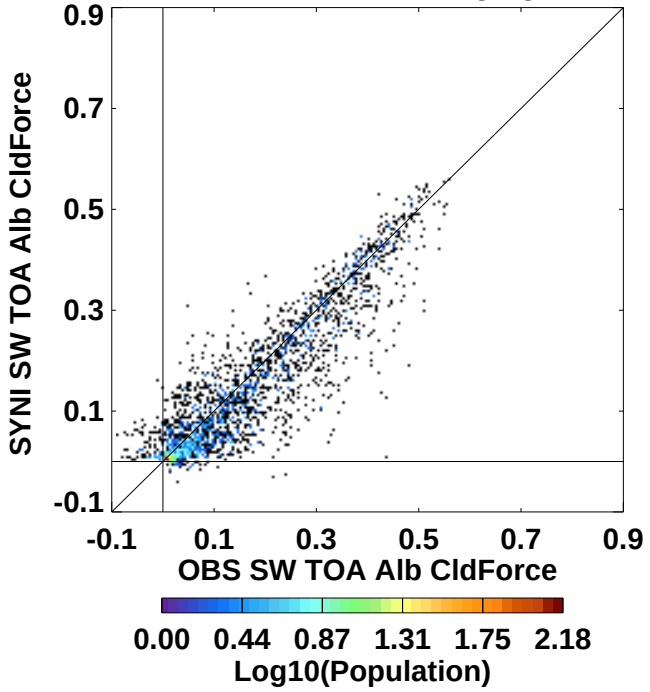

| N= 442. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Alb CldForce | 0.139 | ( 0.165) |
| SYNI SW TOA Alb CldForce | 0.145 | ( 0.168) |
| Y-X | 0.006 | ( 0.032) |
| RMS( | 0.032)..... | |

## CldFor UT TOA SWALB(Hr),GEO



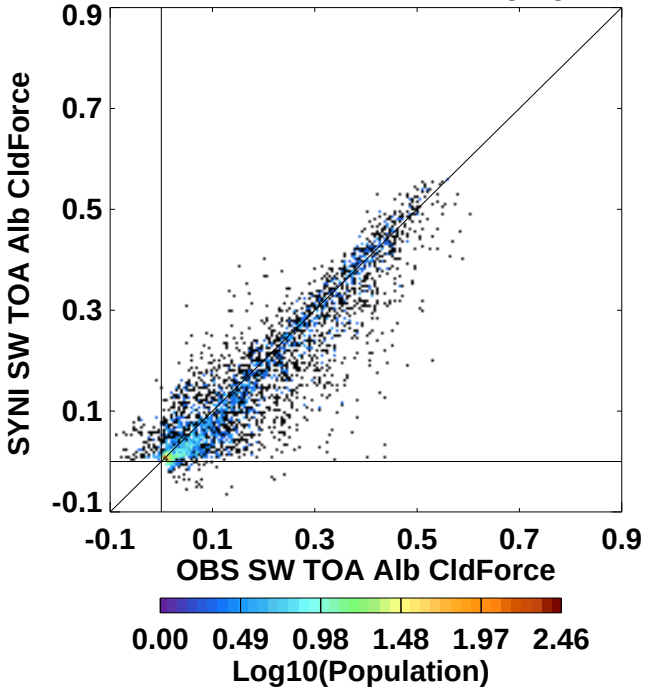

| N= 1198. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Alb CldForce | 0.154 | ( 0.154) |
| SYNI SW TOA Alb CldForce | 0.133 | ( 0.149) |
| Y-X | -0.021 | ( 0.061) |
| RMS( | 0.065)..... | |

## CldFor UT TOA SWALB(Hr)INTERP




| N= 2731. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Alb CldForce | 0.143 | ( 0.144) |
| SYNI SW TOA Alb CldForce | 0.127 | ( 0.137) |
| Y-X | -0.016 | ( 0.058) |
| RMS( | 0.060)..... | |

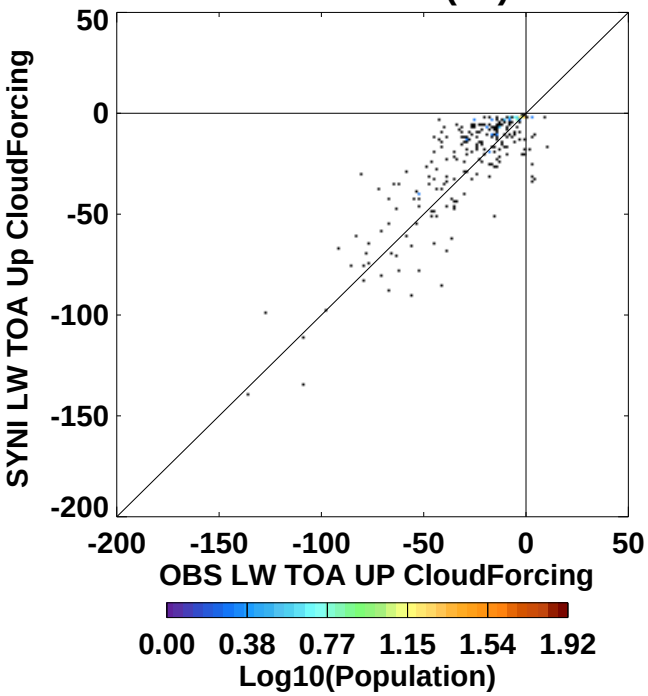
## CldFor UT TOA SWALB(Hr)ALL




| N= 4371. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Alb CldForce | 0.146 | ( 0.149) |
| SYNI SW TOA Alb CldForce | 0.131 | ( 0.144) |
| Y-X | -0.015 | ( 0.057) |
| RMS( | 0.059)..... | |

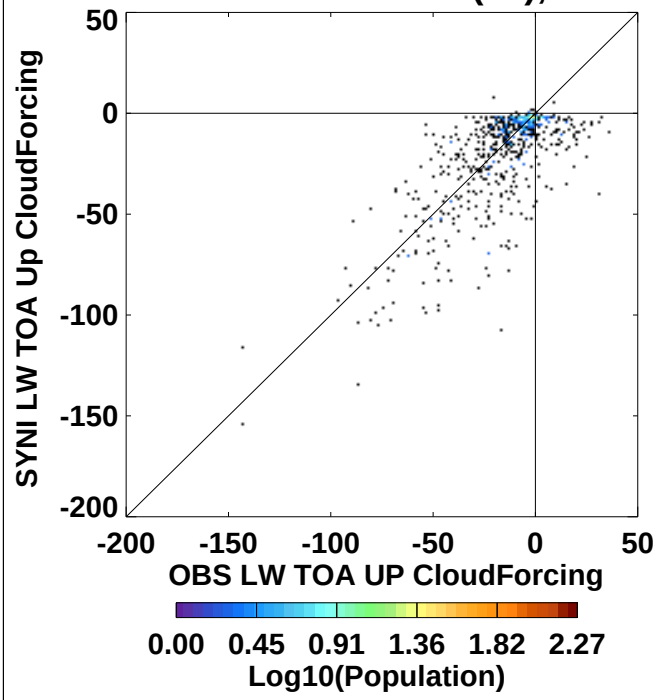
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## CldForced TOA LW(Hr)CERES



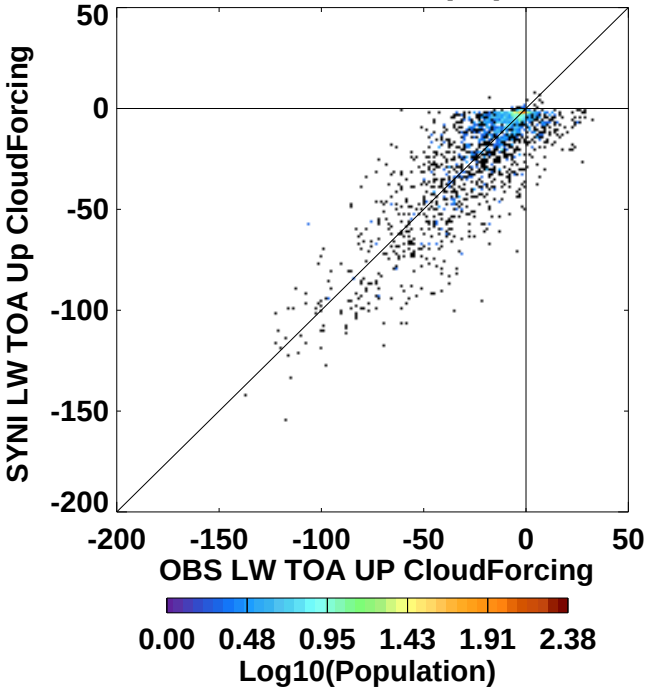

| | Mean | ( StdDev) |
|---|---|---|
| N= 373. | | |
| OBS LW TOA UP CloudForcing | -17.37( | 23.85) |
| SYNI LW TOA Up CloudForcing | -14.64( | 23.16) |
| Y-X | 2.73( | 11.89) |
| RMS( | 12.19)..... | |

## CldForced TOA LW(Hr),GEO



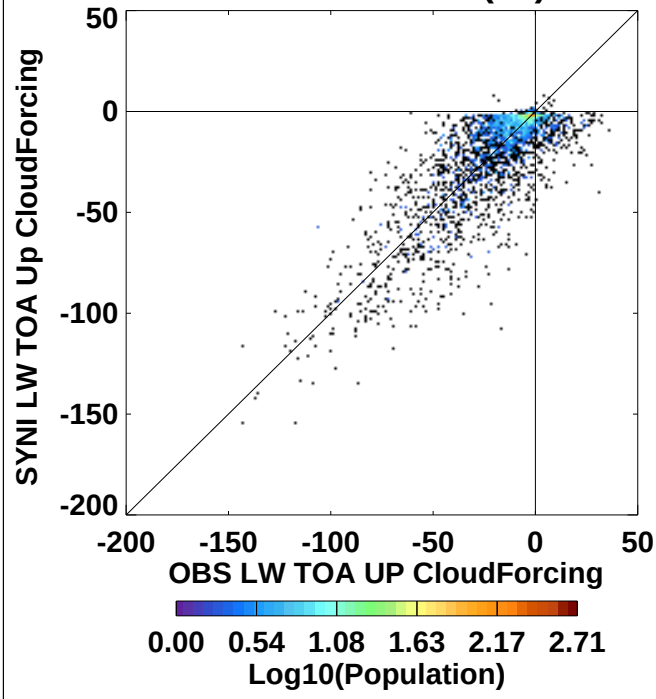

| | Mean | ( StdDev) |
|---|---|---|
| N= 886. | | |
| OBS LW TOA UP CloudForcing | -11.31( | 20.74) |
| SYNI LW TOA Up CloudForcing | -14.50( | 22.71) |
| Y-X | -3.19( | 15.41) |
| RMS( | 15.73)..... | |

## CldForced TOA LW(Hr)INTERP




| | Mean | ( StdDev) |
|---|---|---|
| N= 2365. | | |
| OBS LW TOA UP CloudForcing | -16.52( | 24.10) |
| SYNI LW TOA Up CloudForcing | -18.12( | 24.97) |
| Y-X | -1.61( | 14.03) |
| RMS( | 14.12)..... | |

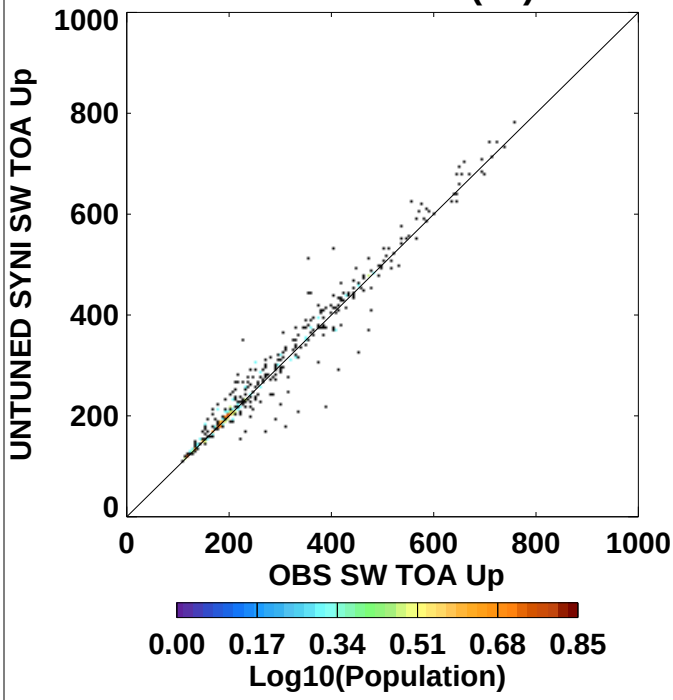
## CldForced TOA LW(Hr)ALL




| | Mean | ( StdDev) |
|---|---|---|
| N= 3624. | | |
| OBS LW TOA UP CloudForcing | -15.33( | 23.40) |
| SYNI LW TOA Up CloudForcing | -16.88( | 24.30) |
| Y-X | -1.55( | 14.27) |
| RMS( | 14.35)..... | |

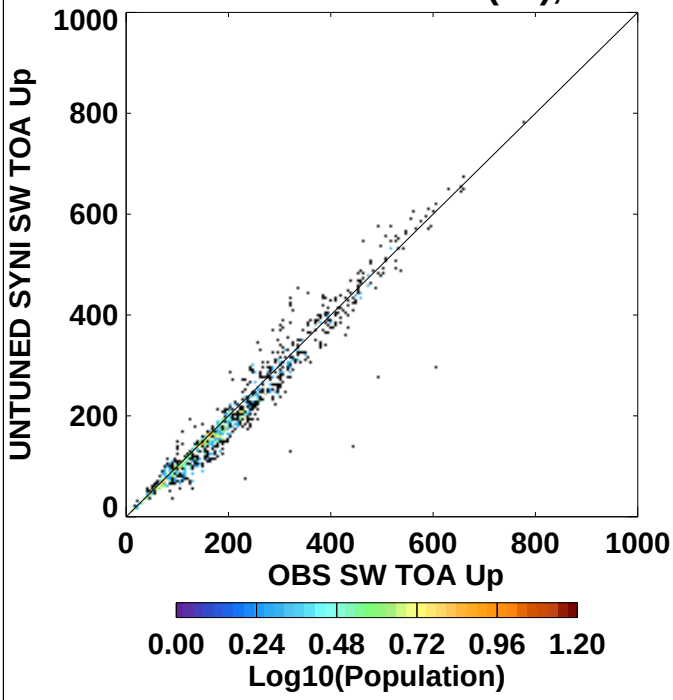
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## Untuned TOA SW UP(Hr)CERES



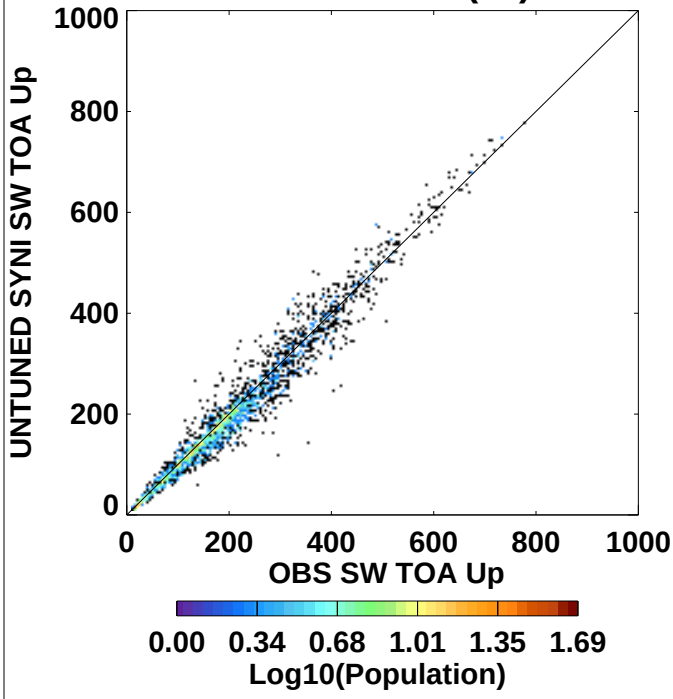

| N= 446. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 282.5 | ( 144.1) |
| UNTUNED SYNI SW TOA Up | 286.0 | ( 147.3) |
| Y-X | 3.54 | ( 29.03) |
| RMS( | 29.21)..... | |

## Untuned TOA SW UP(Hr),GEO



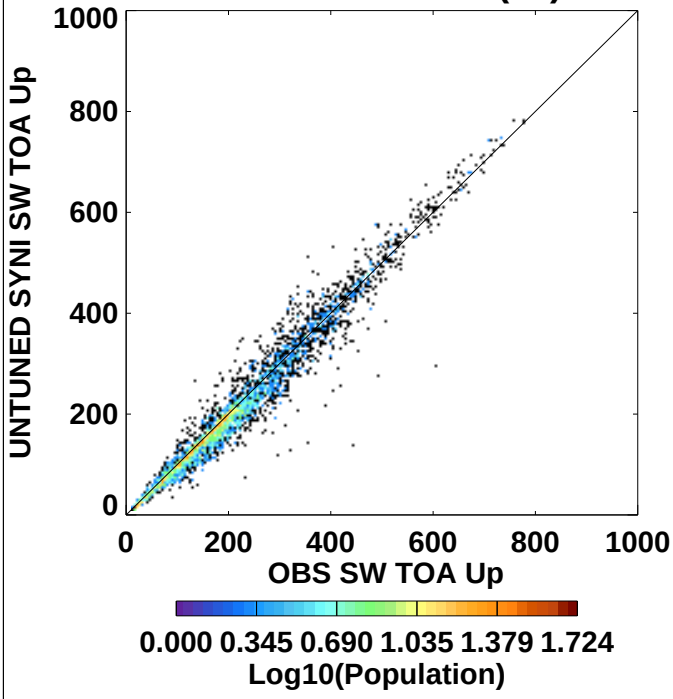

| N= 1198. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 200.7 | ( 124.0) |
| UNTUNED SYNI SW TOA Up | 192.1 | ( 127.1) |
| Y-X | -8.65 | ( 28.03) |
| RMS( | 29.32)..... | |

## Untuned TOA SW UP(Hr)INTERP




| N= 2739. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 200.1 | ( 132.7) |
| UNTUNED SYNI SW TOA Up | 194.7 | ( 135.0) |
| Y-X | -5.47 | ( 26.63) |
| RMS( | 27.18)..... | |

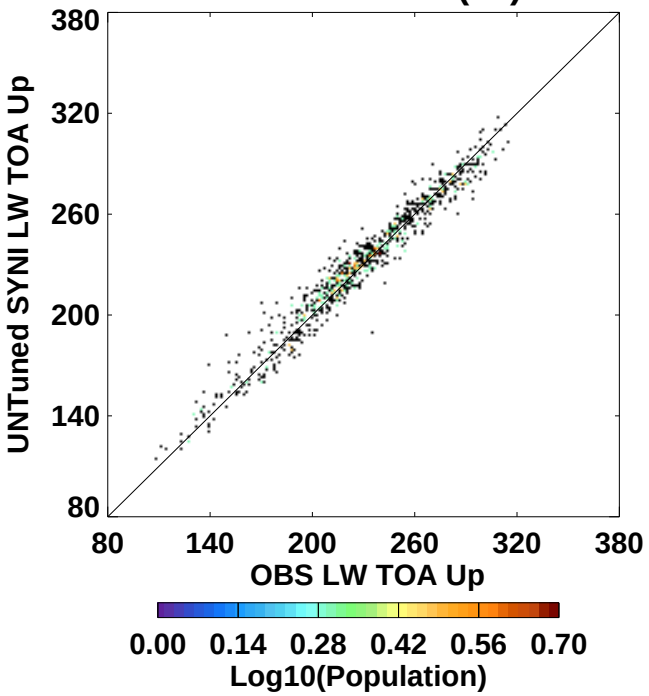
## Untuned TOA SW UP(Hr)ALL




| N= 4383. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 208.7 | ( 133.9) |
| UNTUNED SYNI SW TOA Up | 203.3 | ( 137.1) |
| Y-X | -5.43 | ( 27.47) |
| RMS( | 27.99)..... | |

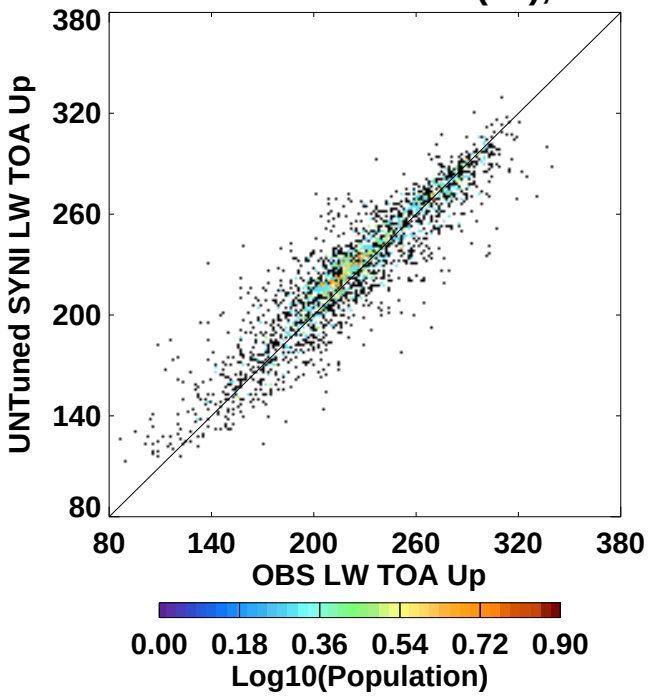
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## UNTuned TOA LW UP(Hr)CERES



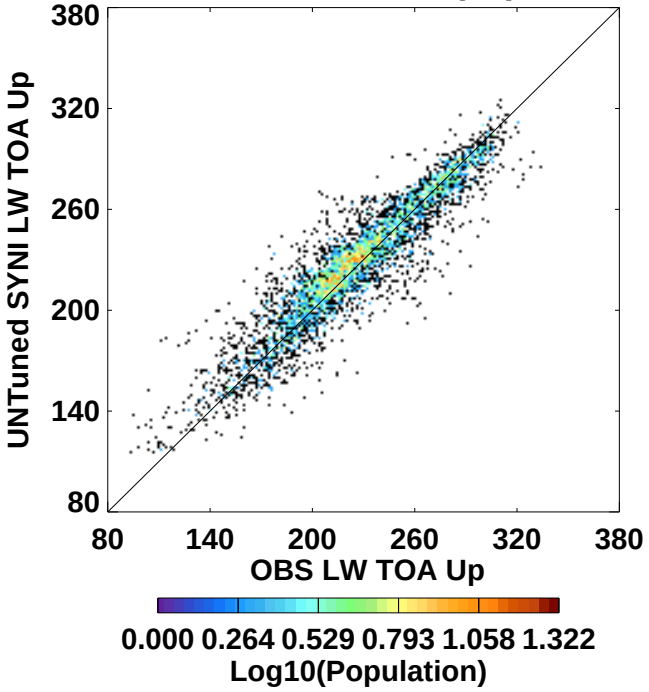

| N= 902. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 228.5 | ( 40.34) |
| UNTuned SYNI LW TOA Up | 229.9 | ( 38.62) |
| Y-X | 1.34 | ( 8.28) |
| RMS( | 8.38)..... | |

## UNTuned TOA LW UP(Hr),GEO



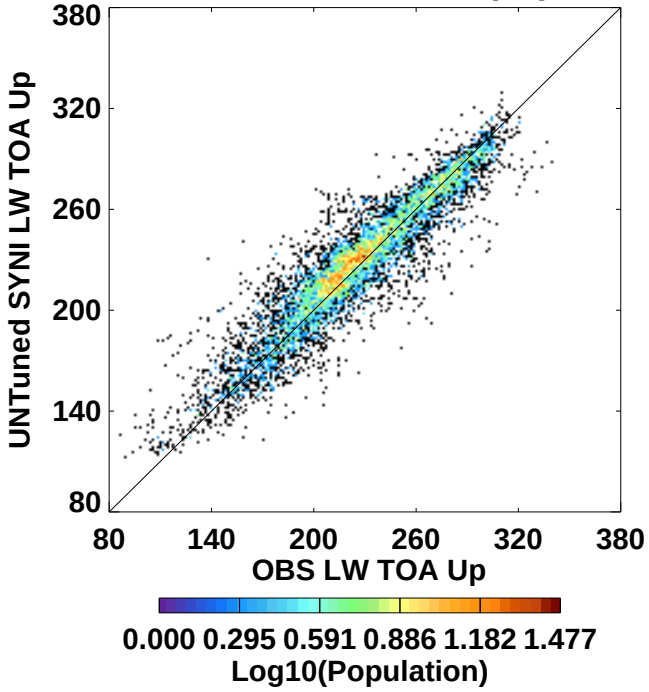

| N= 2611. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 224.2 | ( 41.29) |
| UNTuned SYNI LW TOA Up | 227.3 | ( 38.40) |
| Y-X | 3.13 | ( 16.45) |
| RMS( | 16.74)..... | |

## UNTuned TOA LW UP(Hr)INTERP




| N= 5219. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 225.7 | ( 39.40) |
| UNTuned SYNI LW TOA Up | 228.4 | ( 36.98) |
| Y-X | 2.73 | ( 14.27) |
| RMS( | 14.53)..... | |

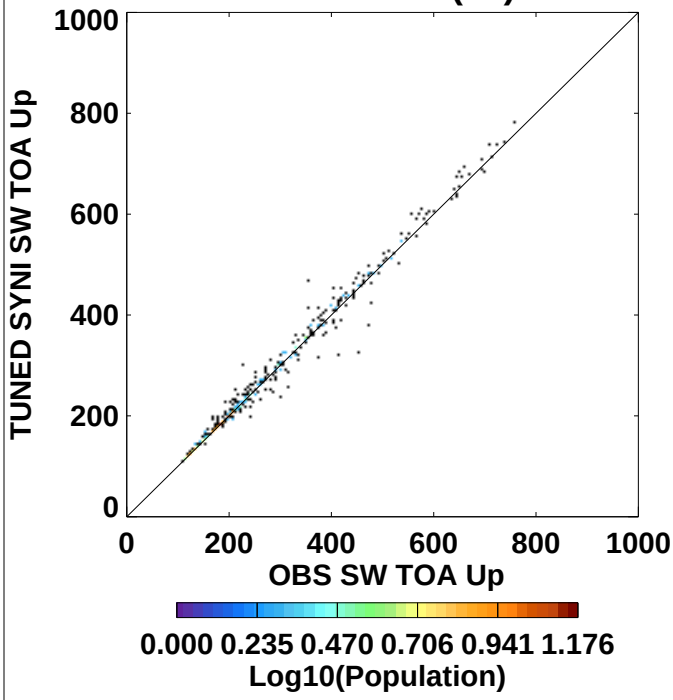
## UNTuned TOA LW UP(Hr)ALL




| N= 8732. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 225.5 | ( 40.08) |
| UNTuned SYNI LW TOA Up | 228.2 | ( 37.59) |
| Y-X | 2.71 | ( 14.49) |
| RMS( | 14.74)..... | |

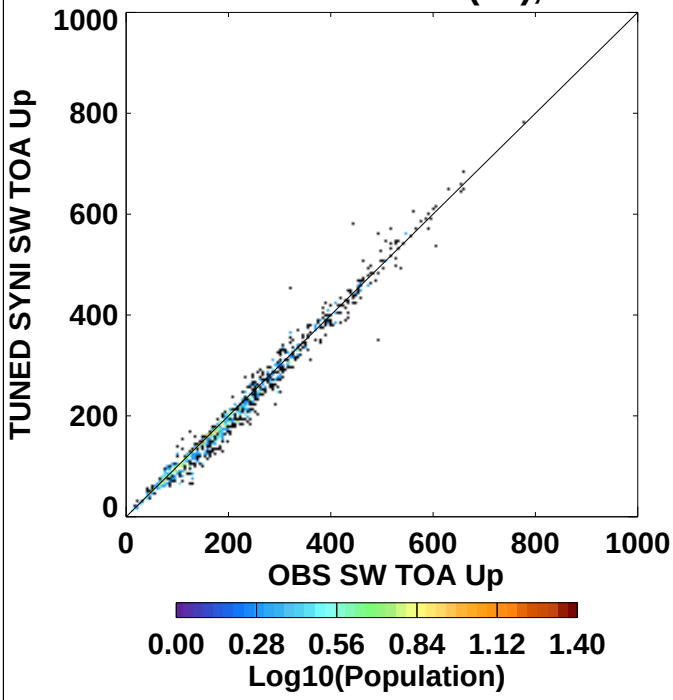
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## Tuned TOA SW UP(Hr)CERES



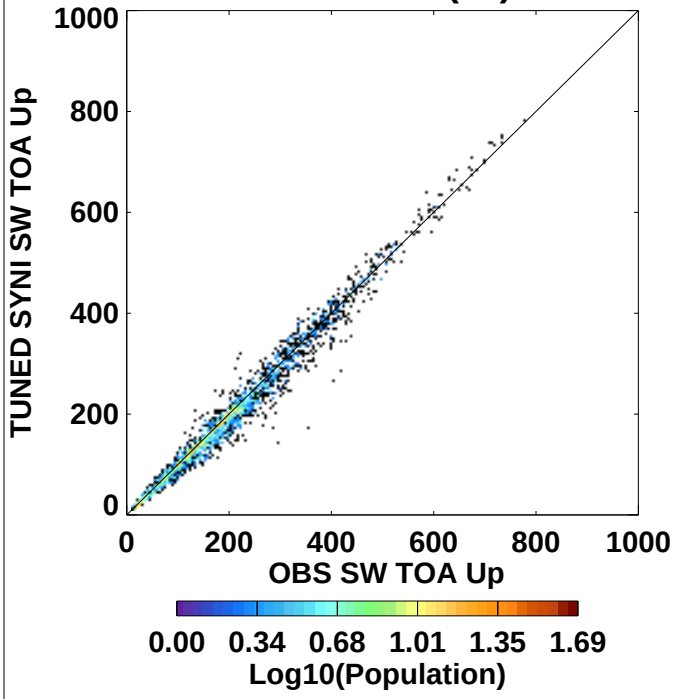

| N= 446. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 282.5 | ( 144.1) |
| TUNED SYNI SW TOA Up | 285.0 | ( 146.4) |
| Y-X | 2.49 | ( 17.39) |
| RMS( | 17.54)..... | |

## Tuned TOA SW UP(Hr),GEO



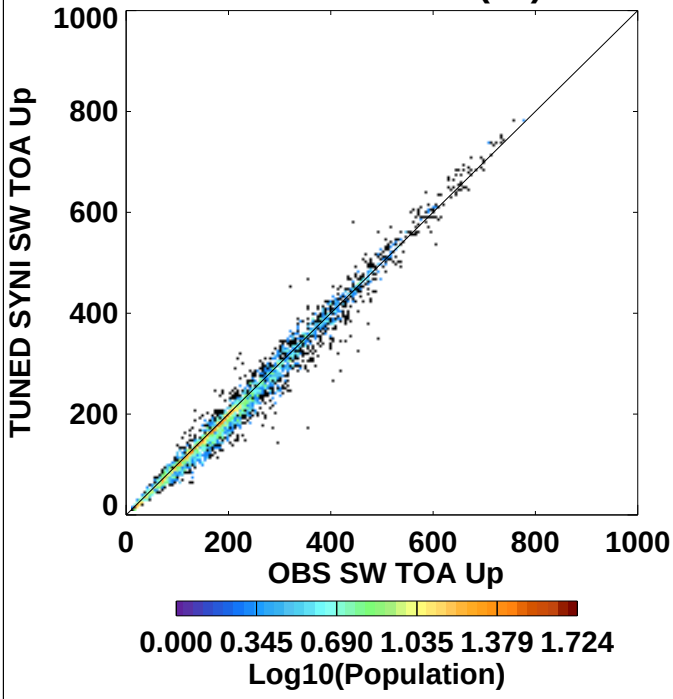

| N= 1198. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 200.7 | ( 124.0) |
| TUNED SYNI SW TOA Up | 195.0 | ( 126.2) |
| Y-X | -5.74 | ( 17.28) |
| RMS( | 18.20)..... | |

## Tuned TOA SW UP(Hr)INTERP




| N= 2742. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 200.1 | ( 132.7) |
| TUNED SYNI SW TOA Up | 194.9 | ( 133.6) |
| Y-X | -5.16 | ( 19.41) |
| RMS( | 20.08)..... | |

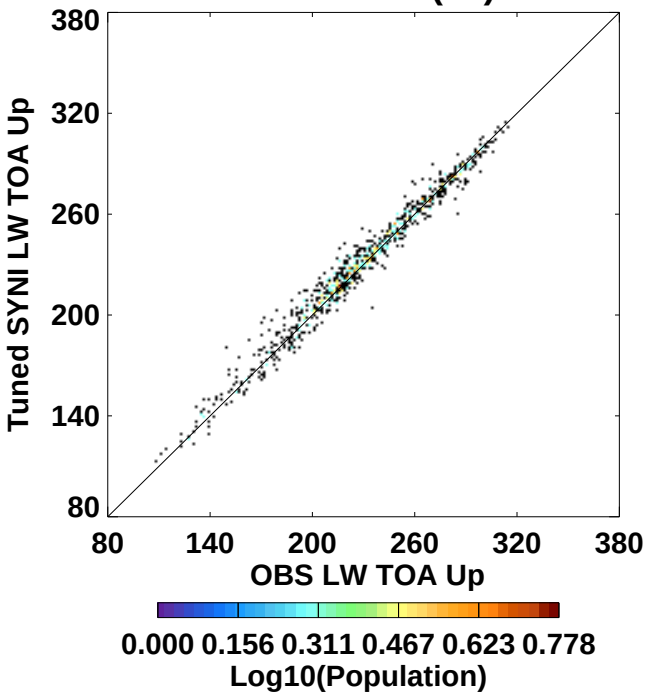
## Tuned TOA SW UP(Hr)ALL




| N= 4386. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 208.6 | ( 133.9) |
| TUNED SYNI SW TOA Up | 204.1 | ( 135.7) |
| Y-X | -4.54 | ( 18.80) |
| RMS( | 19.34)..... | |

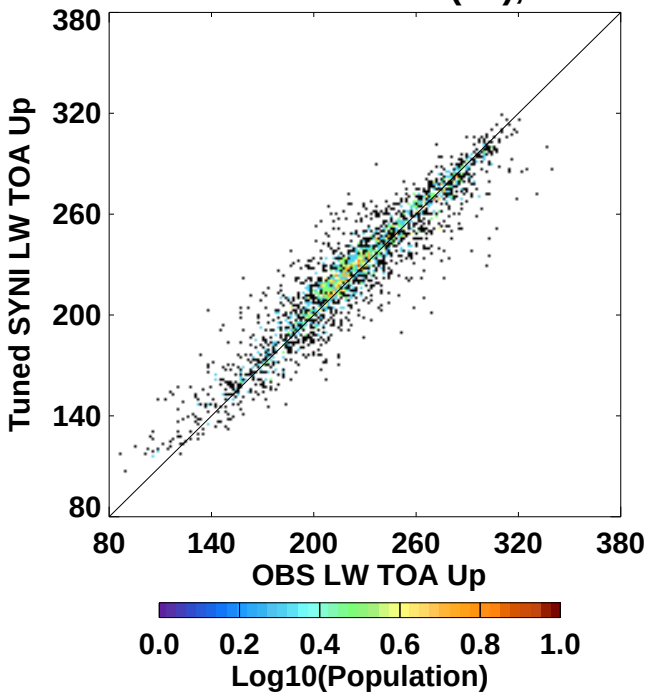
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## Tuned TOA LW UP(Hr)CERES



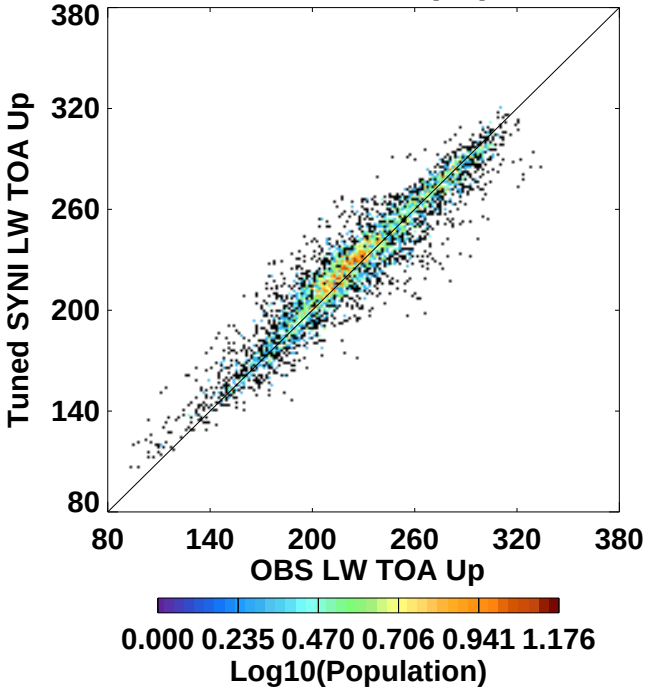

| N= 902. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 228.5 | ( 40.34) |
| Tuned SYNI LW TOA Up | 230.4 | ( 39.46) |
| Y-X | 1.86 | ( 6.42) |
| RMS( | 6.68)..... | |

## Tuned TOA LW UP(Hr),GEO



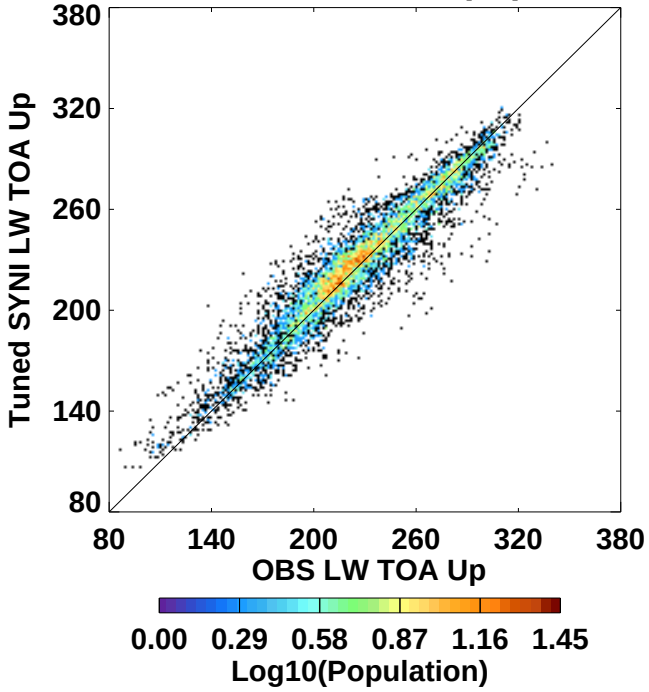

| N= 2611. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 224.2 | ( 41.29) |
| Tuned SYNI LW TOA Up | 226.6 | ( 38.70) |
| Y-X | 2.34 | ( 13.90) |
| RMS( | 14.09)..... | |

## Tuned TOA LW UP(Hr)INTERP




| N= 5223. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 225.7 | ( 39.40) |
| Tuned SYNI LW TOA Up | 228.0 | ( 37.20) |
| Y-X | 2.38 | ( 12.31) |
| RMS( | 12.54)..... | |

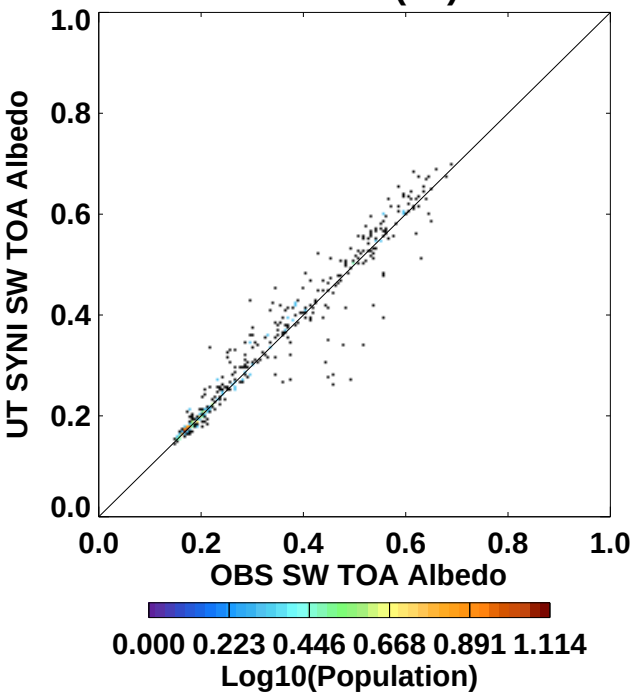
## Tuned TOA LW UP(Hr)ALL




| N= 8736. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 225.5 | ( 40.08) |
| Tuned SYNI LW TOA Up | 227.8 | ( 37.90) |
| Y-X | 2.32 | ( 12.35) |
| RMS( | 12.57)..... | |

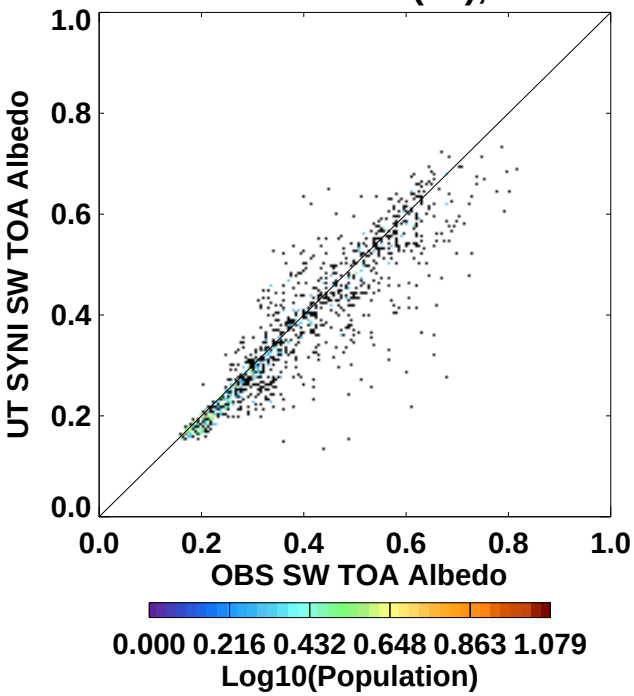
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## UT TOA Albedo(Hr)CERES



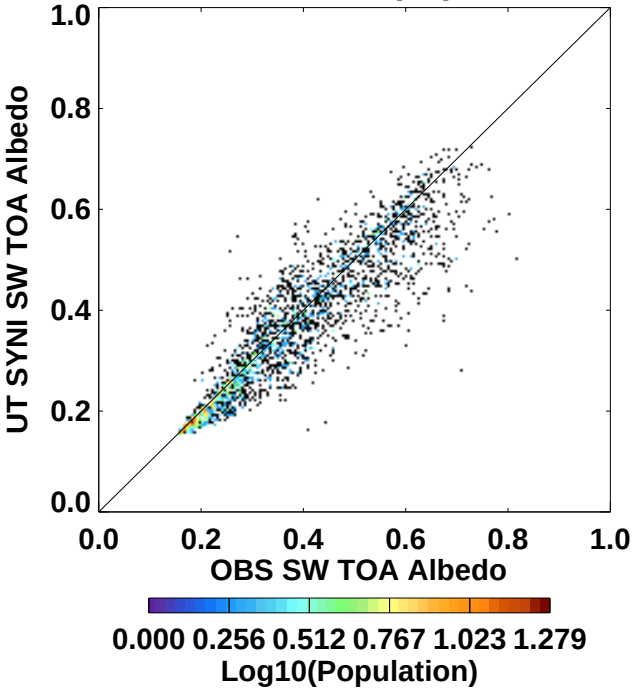

| N= 446. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.323( | 0.155) |
| UT SYNI SW TOA Albedo | 0.327( | 0.158) |
| Y-X | 0.004( | 0.037) |
| RMS( | 0.037)..... | |

## UT TOA Albedo(Hr),GEO



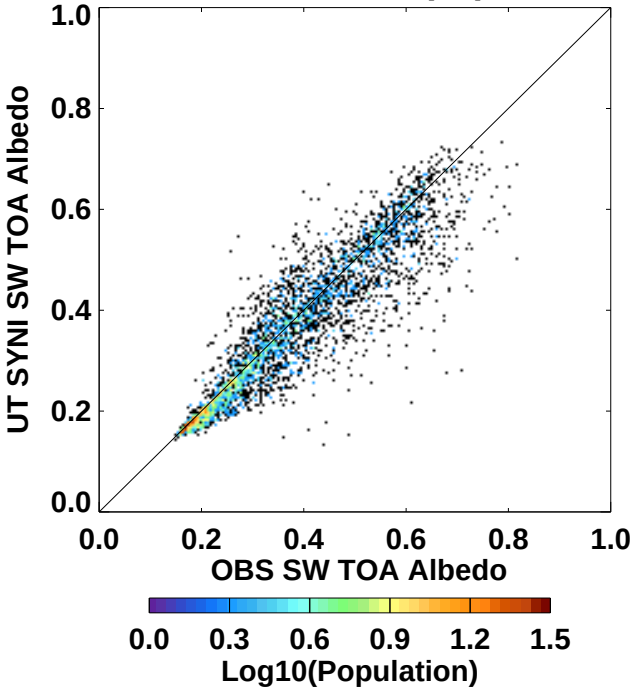

| N= 1198. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.376( | 0.152) |
| UT SYNI SW TOA Albedo | 0.355( | 0.148) |
| Y-X | -0.021( | 0.061) |
| RMS( | 0.065)..... | |

## UT TOA Albedo(Hr)INTERP




| N= 2739. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.371( | 0.150) |
| UT SYNI SW TOA Albedo | 0.355( | 0.142) |
| Y-X | -0.016( | 0.058) |
| RMS( | 0.060)..... | |

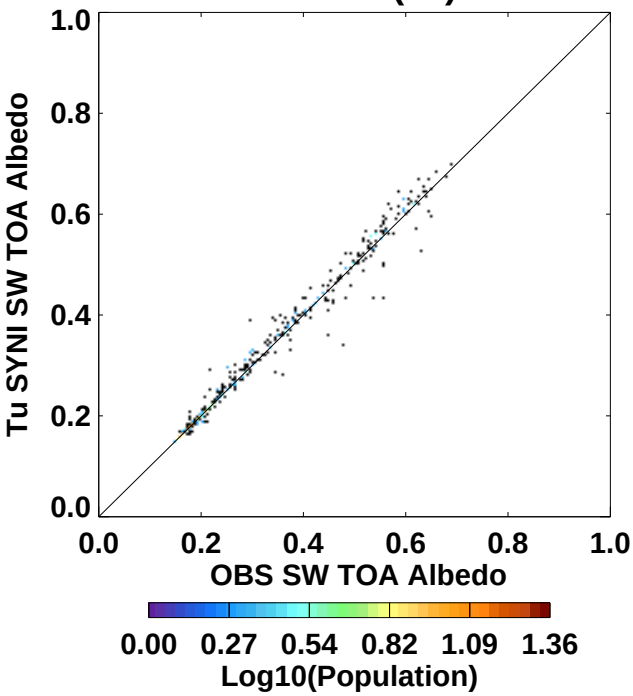
## UT TOA Albedo(Hr)ALL




| N= 4383. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.367( | 0.152) |
| UT SYNI SW TOA Albedo | 0.352( | 0.146) |
| Y-X | -0.015( | 0.058) |
| RMS( | 0.060)..... | |

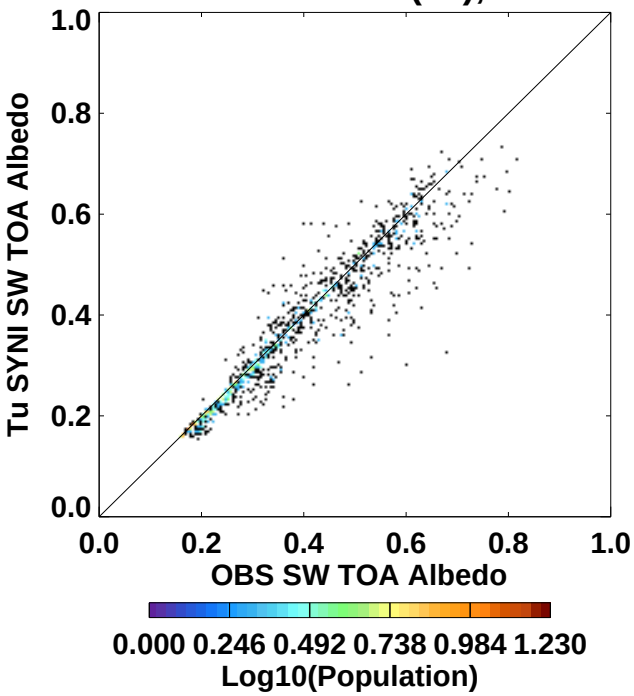
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) AllSky SXF

## Tu TOA Albedo(Hr)CERES



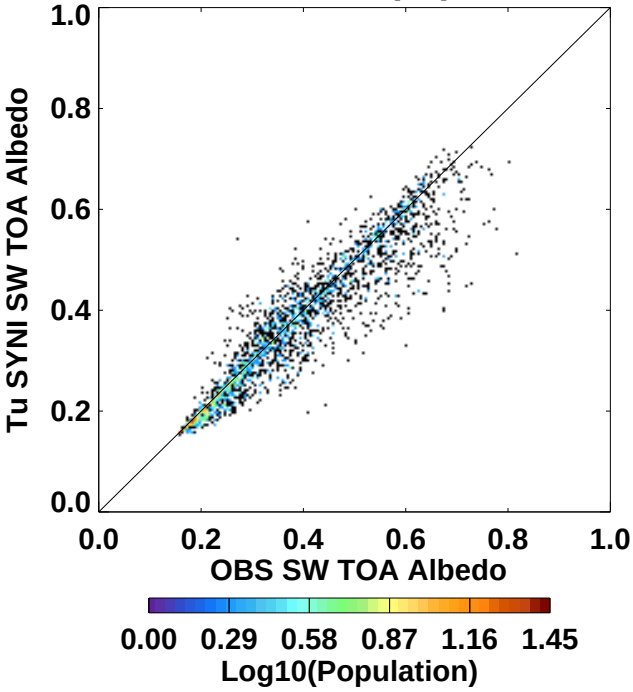

| N= 446. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.323( | 0.155) |
| Tu SYNI SW TOA Albedo | 0.326( | 0.157) |
| Y-X | 0.003( | 0.021) |
| RMS( | 0.021)..... | |

## Tu TOA Albedo(Hr),GEO



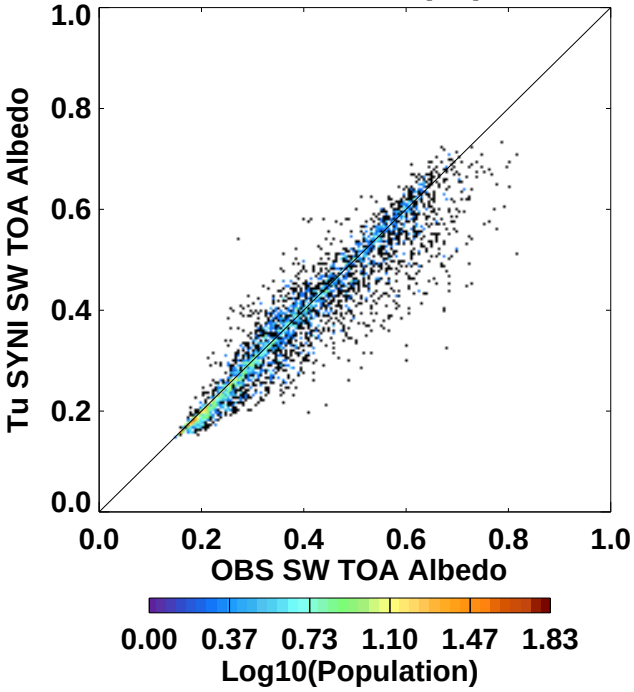

| N= 1198. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.376( | 0.152) |
| Tu SYNI SW TOA Albedo | 0.361( | 0.145) |
| Y-X | -0.015( | 0.046) |
| RMS( | 0.049)..... | |

## Tu TOA Albedo(Hr)INTERP




| N= 2742. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.371( | 0.150) |
| Tu SYNI SW TOA Albedo | 0.356( | 0.141) |
| Y-X | -0.015( | 0.049) |
| RMS( | 0.051)..... | |

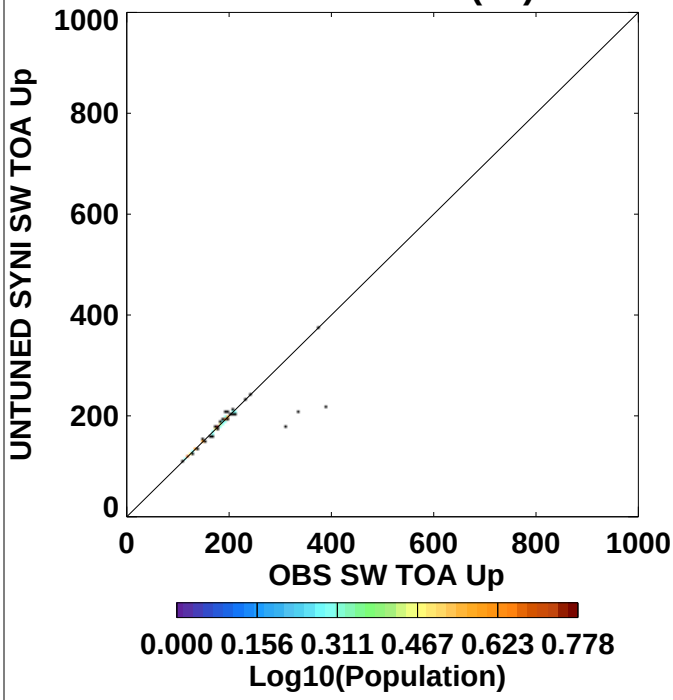
## Tu TOA Albedo(Hr)ALL




| N= 4386. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.367( | 0.151) |
| Tu SYNI SW TOA Albedo | 0.354( | 0.144) |
| Y-X | -0.013( | 0.047) |
| RMS( | 0.048)..... | |

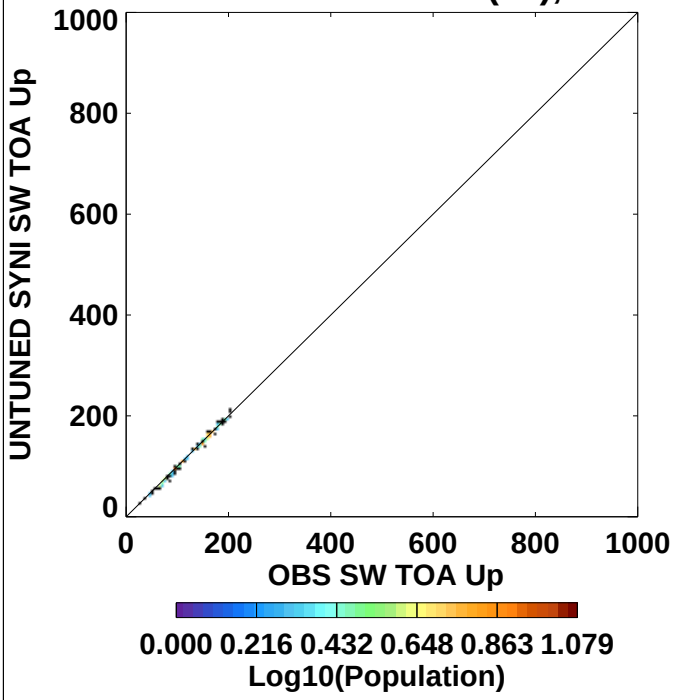
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) ClearSky 1% SXF

## Untuned TOA SW UP(Hr)CERES



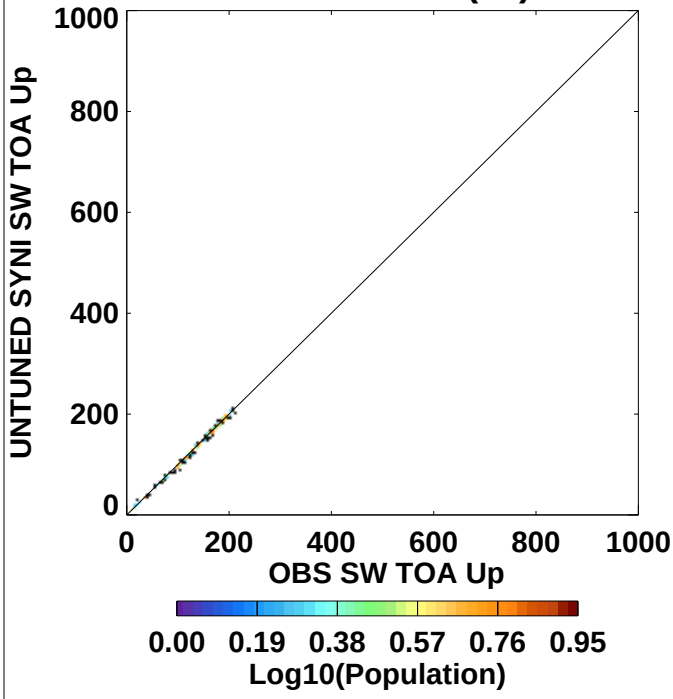

| N= 83. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 174.1( | 51.24) |
| UNTUNED SYNI SW TOA Up | 168.2( | 39.35) |
| Y-X | -5.85( | 28.44) |
| RMS( | 28.87)..... | |

## Untuned TOA SW UP(Hr),GEO



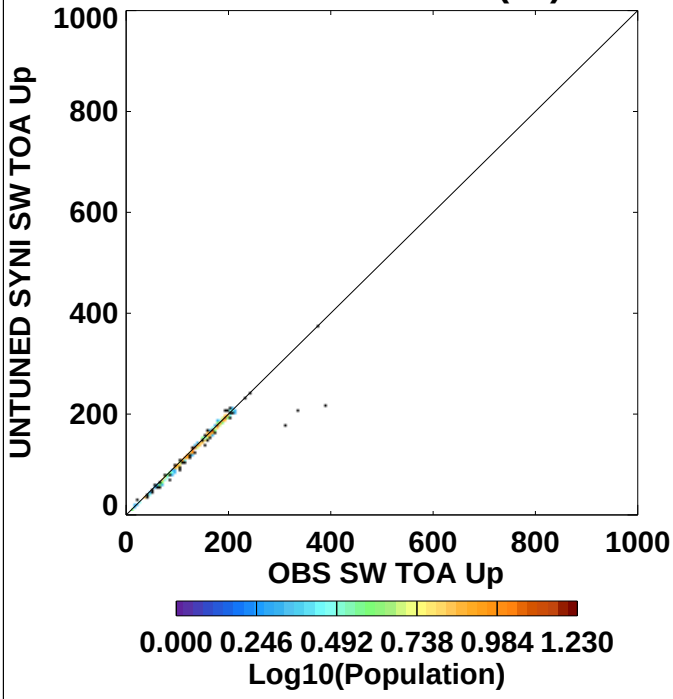

| N= 184. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 122.1( | 43.16) |
| UNTUNED SYNI SW TOA Up | 120.4( | 44.17) |
| Y-X | -1.71( | 3.36) |
| RMS( | 3.76)..... | |

## Untuned TOA SW UP(Hr)INTERP




| N= 237. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 127.6( | 51.53) |
| UNTUNED SYNI SW TOA Up | 126.2( | 51.70) |
| Y-X | -1.38( | 3.40) |
| RMS( | 3.66)..... | |

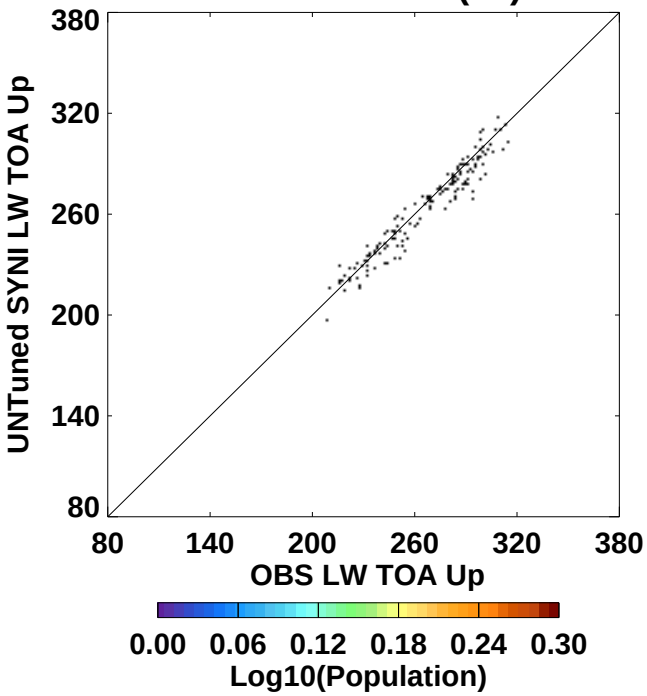
## Untuned TOA SW UP(Hr)ALL




| N= 504. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 133.2( | 51.84) |
| UNTUNED SYNI SW TOA Up | 131.0( | 49.97) |
| Y-X | -2.24( | 12.00) |
| RMS( | 12.19)..... | |

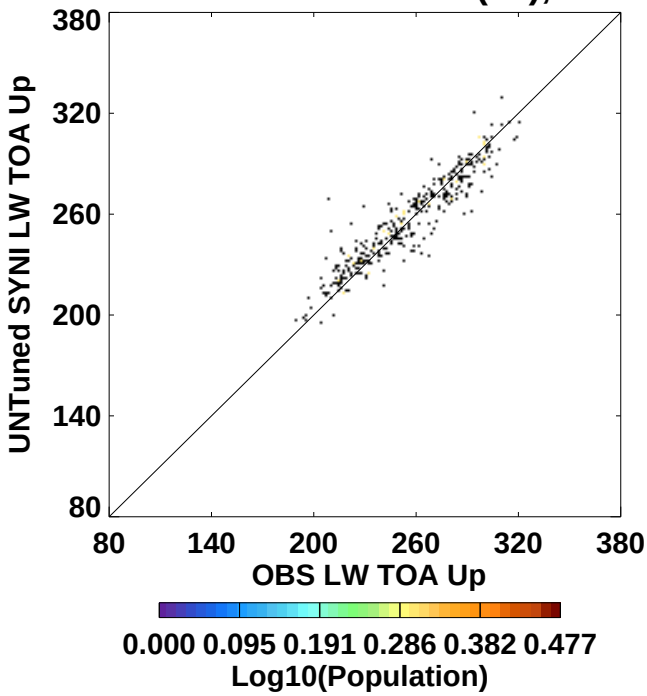
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) ClearSky 1% SXF

## UNTuned TOA LW UP(Hr)CERES



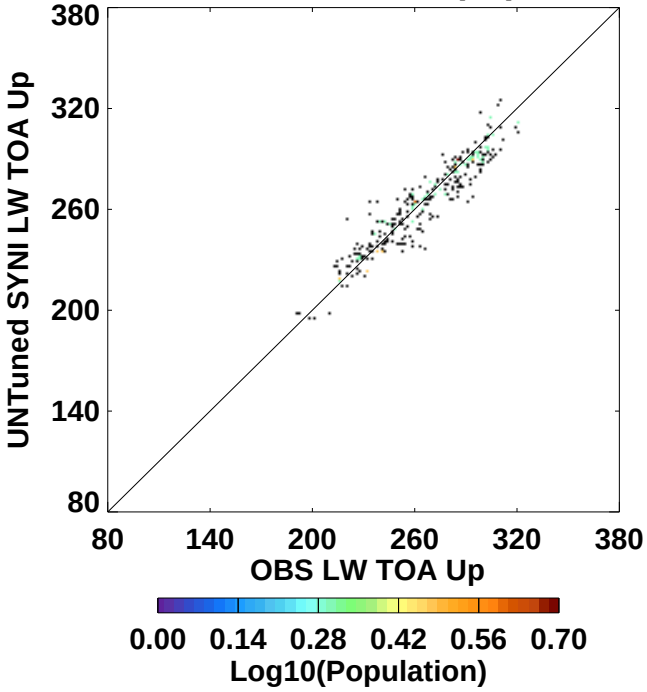

| N= 155. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 266.5( | 28.63) |
| UNTuned SYNI LW TOA Up | 263.5( | 27.53) |
| Y-X | -3.01( | 7.18) |
| RMS( | 7.76)..... | |

## UNTuned TOA LW UP(Hr),GEO



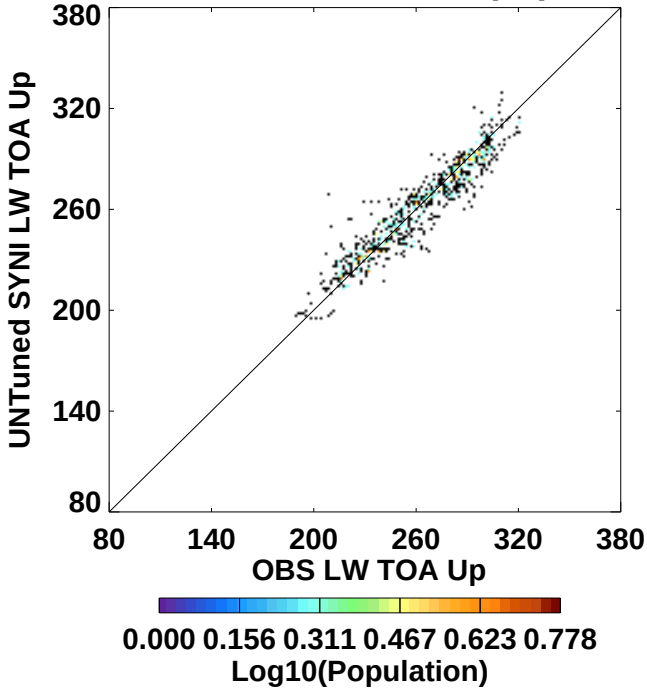

| N= 351. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 256.4( | 30.65) |
| UNTuned SYNI LW TOA Up | 257.6( | 27.65) |
| Y-X | 1.25( | 10.85) |
| RMS( | 10.90)..... | |

## UNTuned TOA LW UP(Hr)INTERP




| N= 333. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 266.3( | 28.64) |
| UNTuned SYNI LW TOA Up | 265.4( | 26.53) |
| Y-X | -0.918( | 9.05) |
| RMS( | 9.09)..... | |

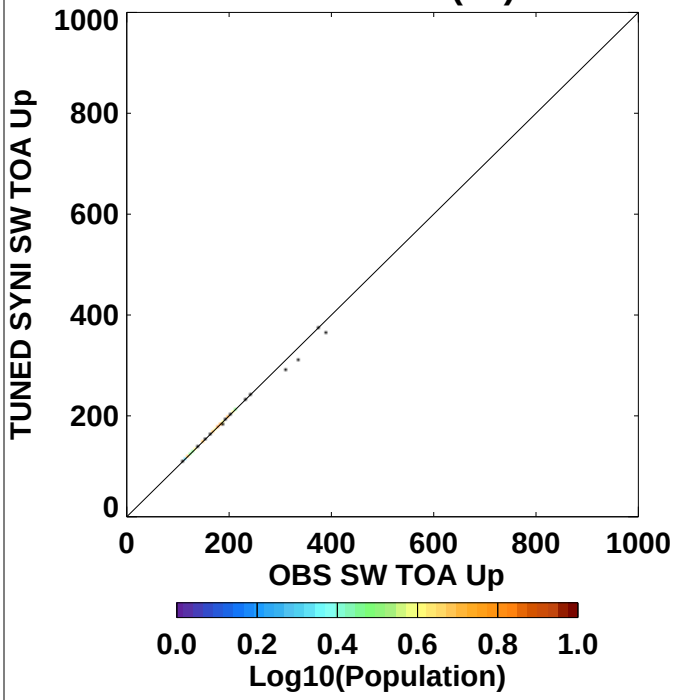
## UNTuned TOA LW UP(Hr)ALL




| N= 839. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 262.2( | 29.87) |
| UNTuned SYNI LW TOA Up | 261.8( | 27.40) |
| Y-X | -0.397( | 9.67) |
| RMS( | 9.68)..... | |

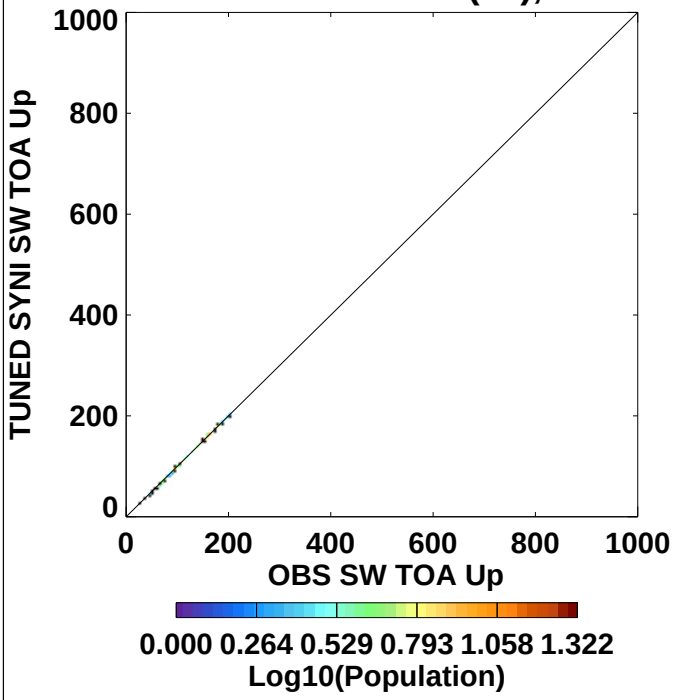
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) ClearSky 1% SXF

## Tuned TOA SW UP(Hr)CERES



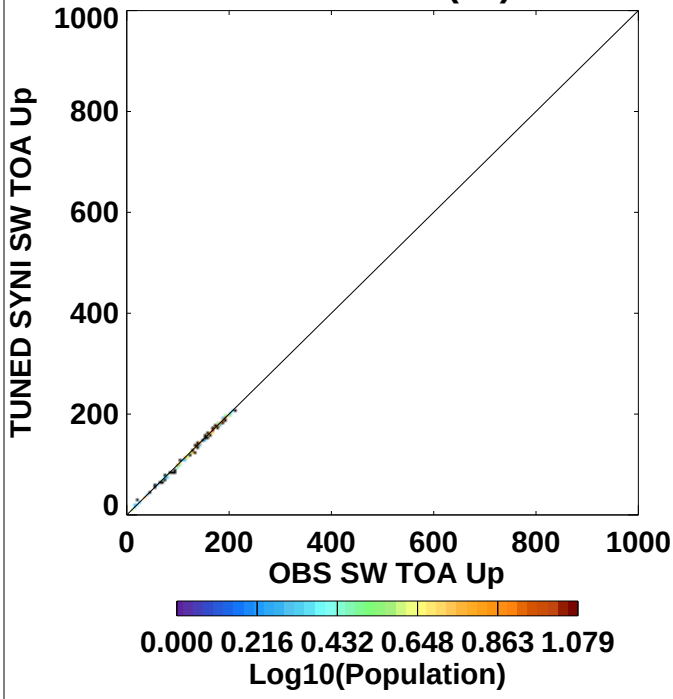

| N= 83. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 174.1( | 51.24) |
| TUNED SYNI SW TOA Up | 173.2( | 48.34) |
| Y-X | -0.899( | 4.66) |
| RMS( | 4.72)..... | |

## Tuned TOA SW UP(Hr),GEO



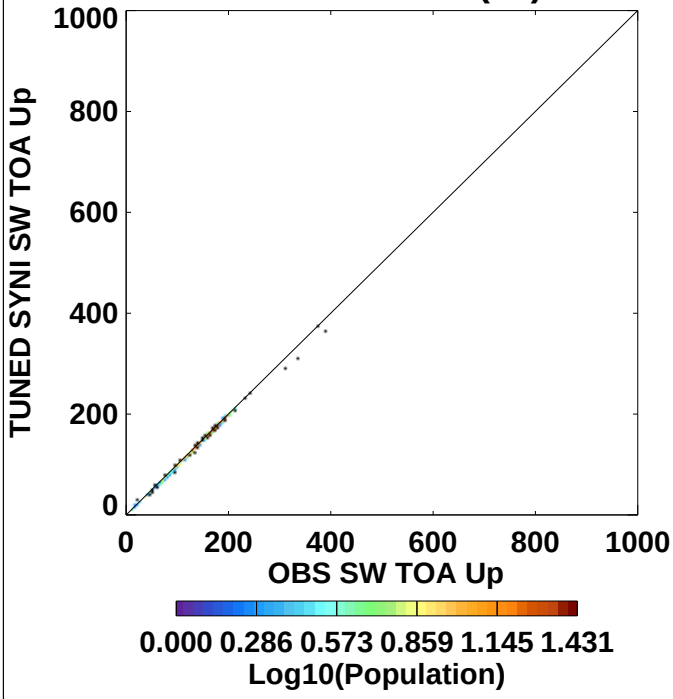

| N= 184. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 122.1( | 43.16) |
| TUNED SYNI SW TOA Up | 121.5( | 43.68) |
| Y-X | -0.640( | 1.21) |
| RMS( | 1.37)..... | |

## Tuned TOA SW UP(Hr)INTERP




| N= 237. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 127.6( | 51.53) |
| TUNED SYNI SW TOA Up | 126.8( | 51.57) |
| Y-X | -0.767( | 2.09) |
| RMS( | 2.23)..... | |

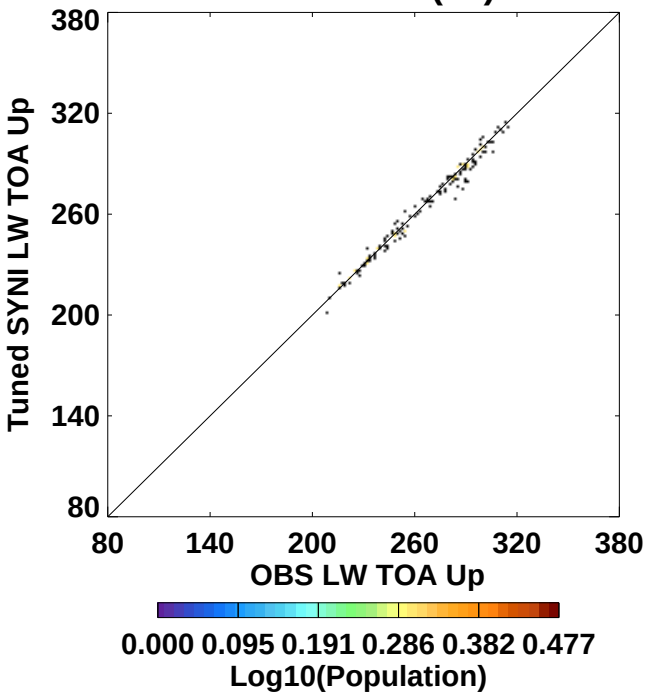
## Tuned TOA SW UP(Hr)ALL




| N= 504. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Up | 133.2( | 51.84) |
| TUNED SYNI SW TOA Up | 132.5( | 51.53) |
| Y-X | -0.742( | 2.48) |
| RMS( | 2.59)..... | |

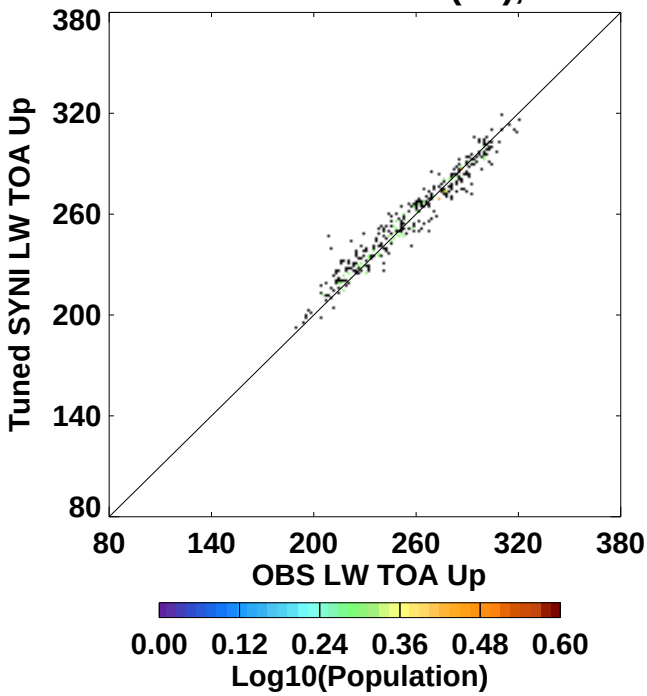
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) ClearSky 1% SXF

## Tuned TOA LW UP(Hr)CERES



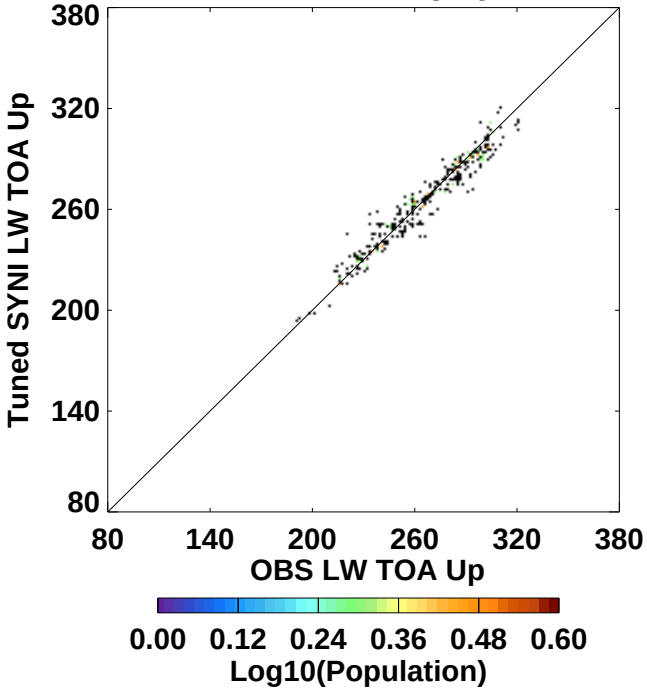

| N= 155. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 266.5( | 28.63) |
| Tuned SYNI LW TOA Up | 265.5( | 28.10) |
| Y-X | -1.02( | 3.55) |
| RMS( | 3.68)..... | |

## Tuned TOA LW UP(Hr),GEO



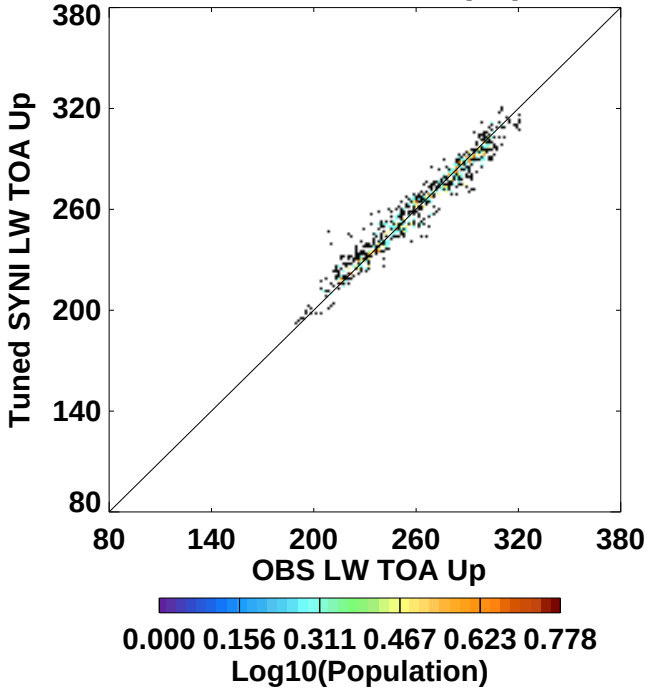

| N= 351. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 256.4( | 30.65) |
| Tuned SYNI LW TOA Up | 257.6( | 28.19) |
| Y-X | 1.17( | 7.15) |
| RMS( | 7.23)..... | |

## Tuned TOA LW UP(Hr)INTERP




| N= 333. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 266.3( | 28.64) |
| Tuned SYNI LW TOA Up | 265.8( | 26.64) |
| Y-X | -0.522( | 6.86) |
| RMS( | 6.87)..... | |

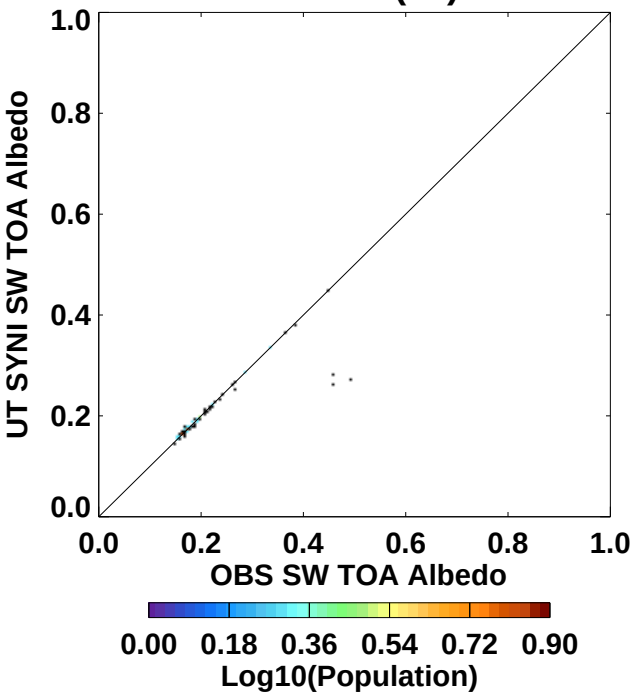
## Tuned TOA LW UP(Hr)ALL




| N= 839. | Mean | ( StdDev) |
|---|---|---|
| OBS LW TOA Up | 262.2( | 29.87) |
| Tuned SYNI LW TOA Up | 262.3( | 27.83) |
| Y-X | 0.094( | 6.57) |
| RMS( | 6.57)..... | |

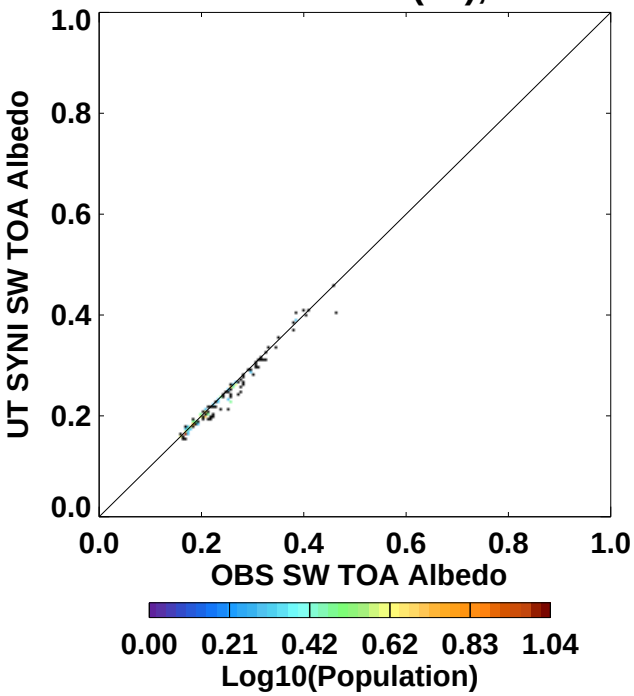
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) ClearSky 1% SXF

## UT TOA Albedo(Hr)CERES



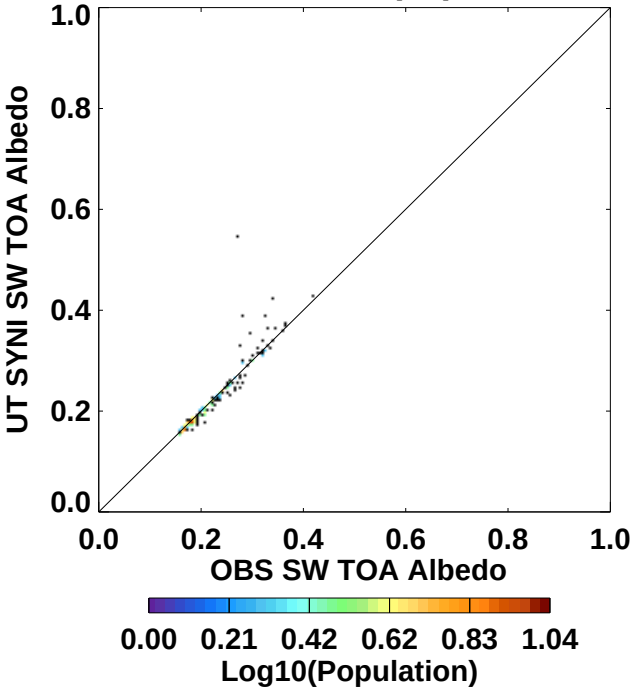

| N= 83. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.203( | 0.076) |
| UT SYNI SW TOA Albedo | 0.195( | 0.057) |
| Y-X | -0.008( | 0.039) |
| RMS( | 0.039)..... | |

## UT TOA Albedo(Hr),GEO



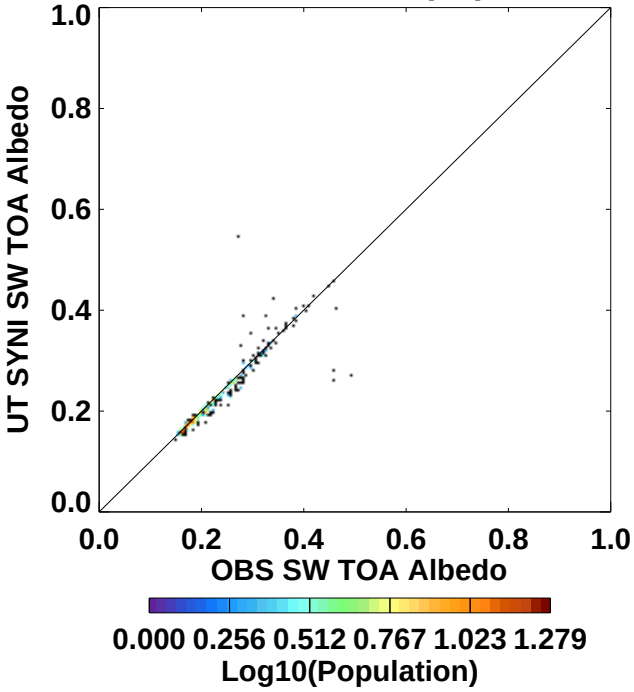

| N= 184. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.225( | 0.065) |
| UT SYNI SW TOA Albedo | 0.220( | 0.064) |
| Y-X | -0.005( | 0.009) |
| RMS( | 0.010)..... | |

## UT TOA Albedo(Hr)INTERP




| N= 237. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.212( | 0.054) |
| UT SYNI SW TOA Albedo | 0.212( | 0.063) |
| Y-X | 0.000( | 0.023) |
| RMS( | 0.023)..... | |

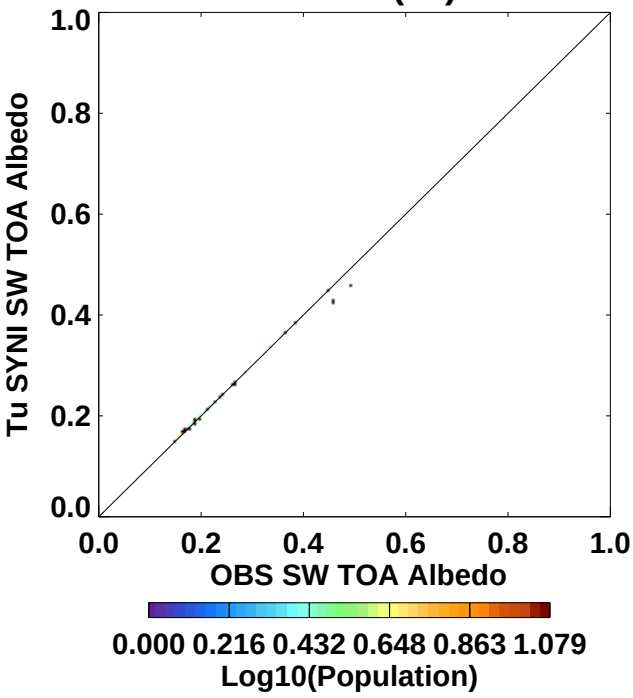
## UT TOA Albedo(Hr)ALL




| N= 504. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.215( | 0.062) |
| UT SYNI SW TOA Albedo | 0.212( | 0.063) |
| Y-X | -0.003( | 0.023) |
| RMS( | 0.023)..... | |

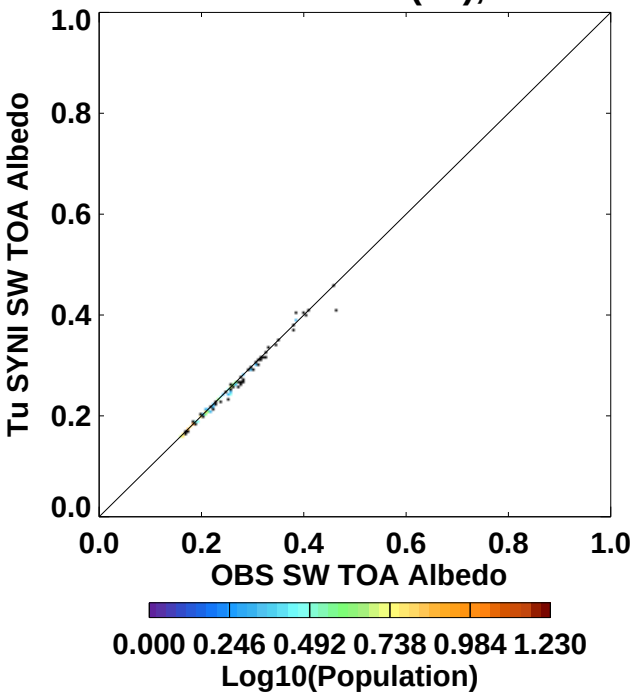
# SYNI Beta3 Year 2002: Spatial Subset (aka STS) ClearSky 1% SXF

## Tu TOA Albedo(Hr)CERES



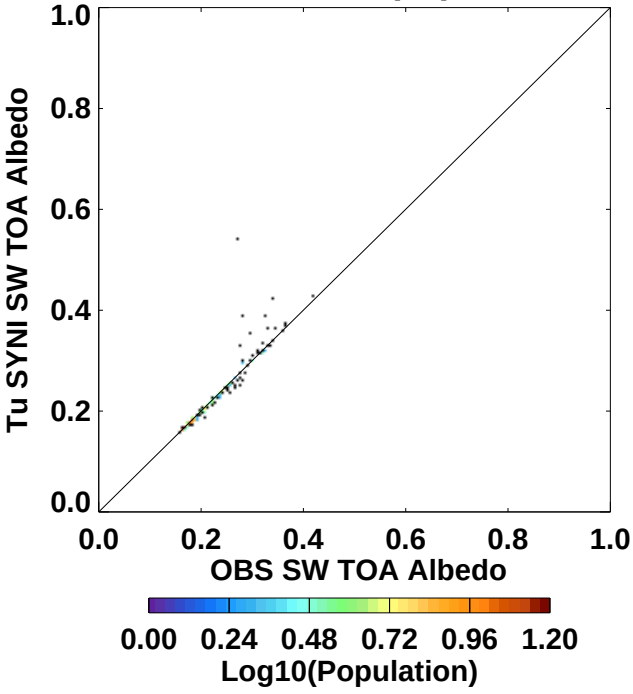

| N= 83. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.203 | ( 0.076) |
| Tu SYNI SW TOA Albedo | 0.202 | ( 0.072) |
| Y-X | -0.001 | ( 0.006) |
| RMS( | 0.006)..... | |

## Tu TOA Albedo(Hr),GEO



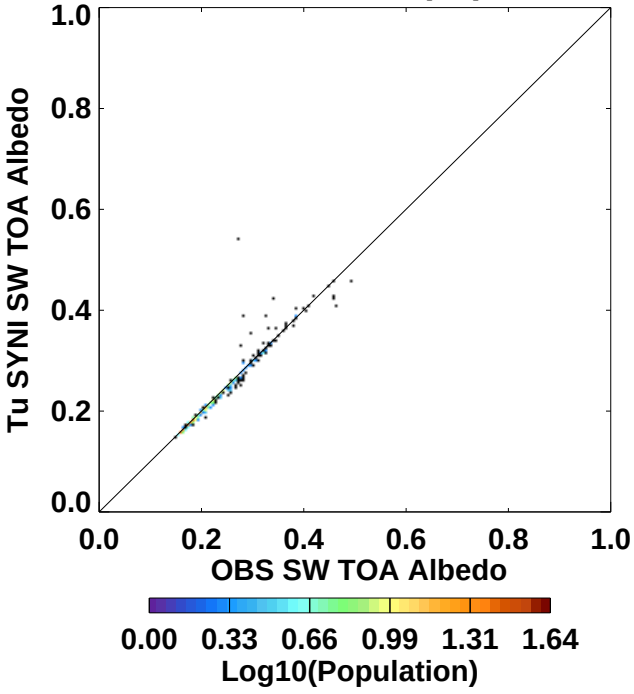

| N= 184. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.225 | ( 0.065) |
| Tu SYNI SW TOA Albedo | 0.223 | ( 0.064) |
| Y-X | -0.002 | ( 0.006) |
| RMS( | 0.006)..... | |

## Tu TOA Albedo(Hr)INTERP




| N= 237. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.212 | ( 0.054) |
| Tu SYNI SW TOA Albedo | 0.213 | ( 0.062) |
| Y-X | 0.001 | ( 0.022) |
| RMS( | 0.022)..... | |

## Tu TOA Albedo(Hr)ALL




| N= 504. | Mean | ( StdDev) |
|---|---|---|
| OBS SW TOA Albedo | 0.215 | ( 0.062) |
| Tu SYNI SW TOA Albedo | 0.215 | ( 0.065) |
| Y-X | -0.000 | ( 0.016) |
| RMS( | 0.016)..... | |