Report of confirmation of total ozone value in Umkehr data for WOUDC depositing

Tsukuba, Japan

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1. Objective
   These are confirmation reports of the total ozone value in the Umkehr data reevaluation for WOUDC depositing.

2. Comparison data

2.1 Total ozone values in Umkehr data.
   Umk; These are the same as total ozone value in the original Umkehr data currently deposited at the WOUDC website. As for these total ozones, the observed value of Mu2.5 is usually used. Therefore, total ozone value differs from WOUDC archive.

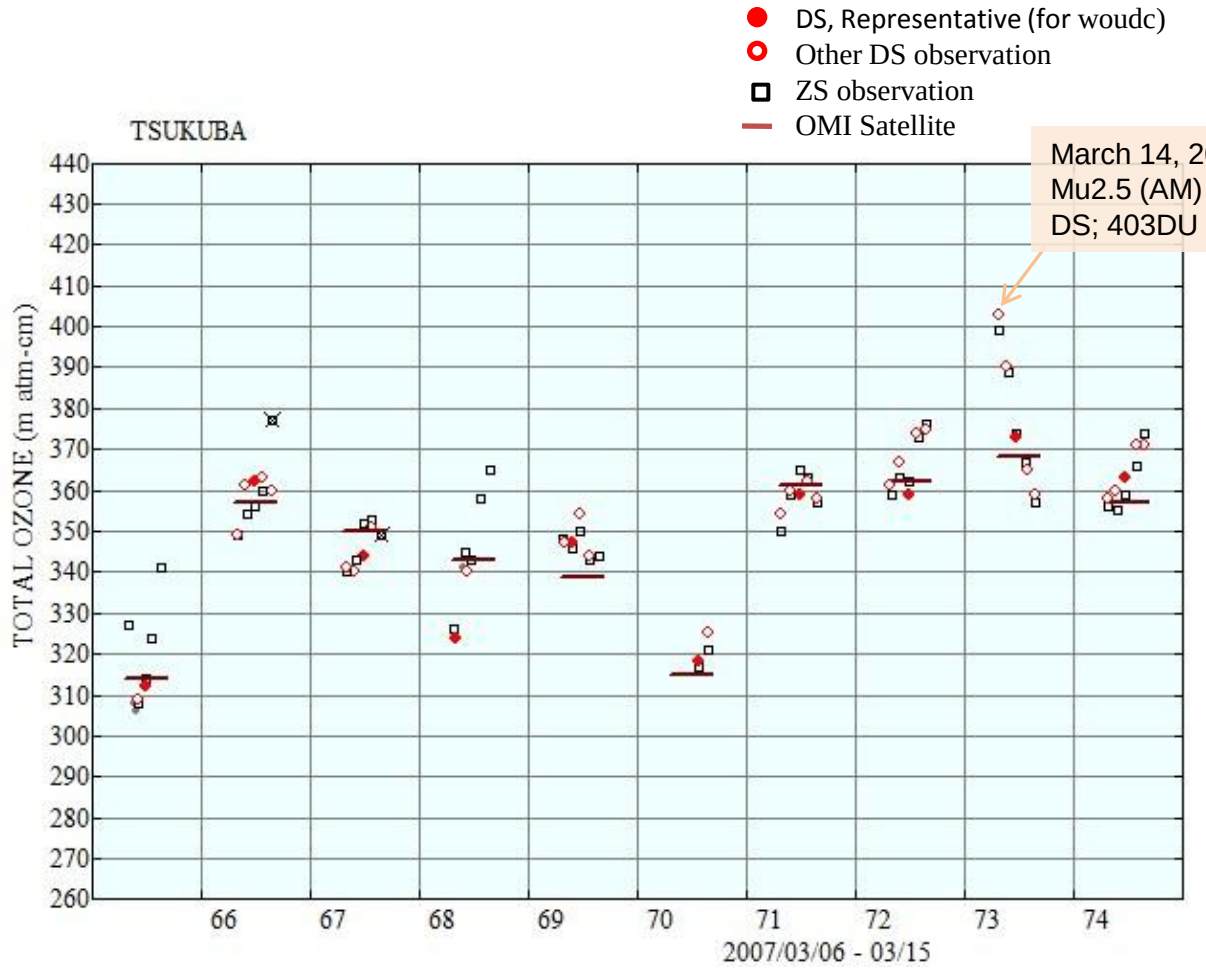
2.2 Total ozone data
   woudc; Representative value of day (same as the value of WOUDC depositing).
   Mu2.5; Observed value of Mu2.5 (or Mu1.5, NOON).

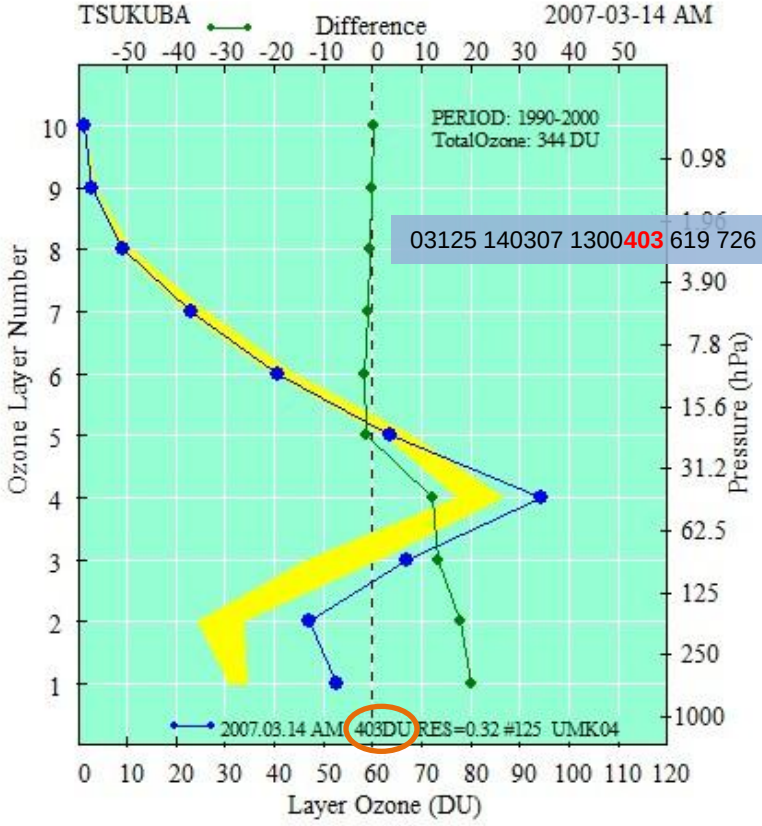
3. Result
   As for the total ozone of Umkehr observation, the value of Mu2.5 has been used since the observation start. The comparison result of each station showed good coincidence for newest total ozone archive. The comparison result by representative value is in +/-5% of scattering range almost.

%(Umk-woudc)=(Umk-woudc)/woudc * 100
%(Umk-Mu2.5)=(Umk –Mu2.5)/Mu2.5 * 100

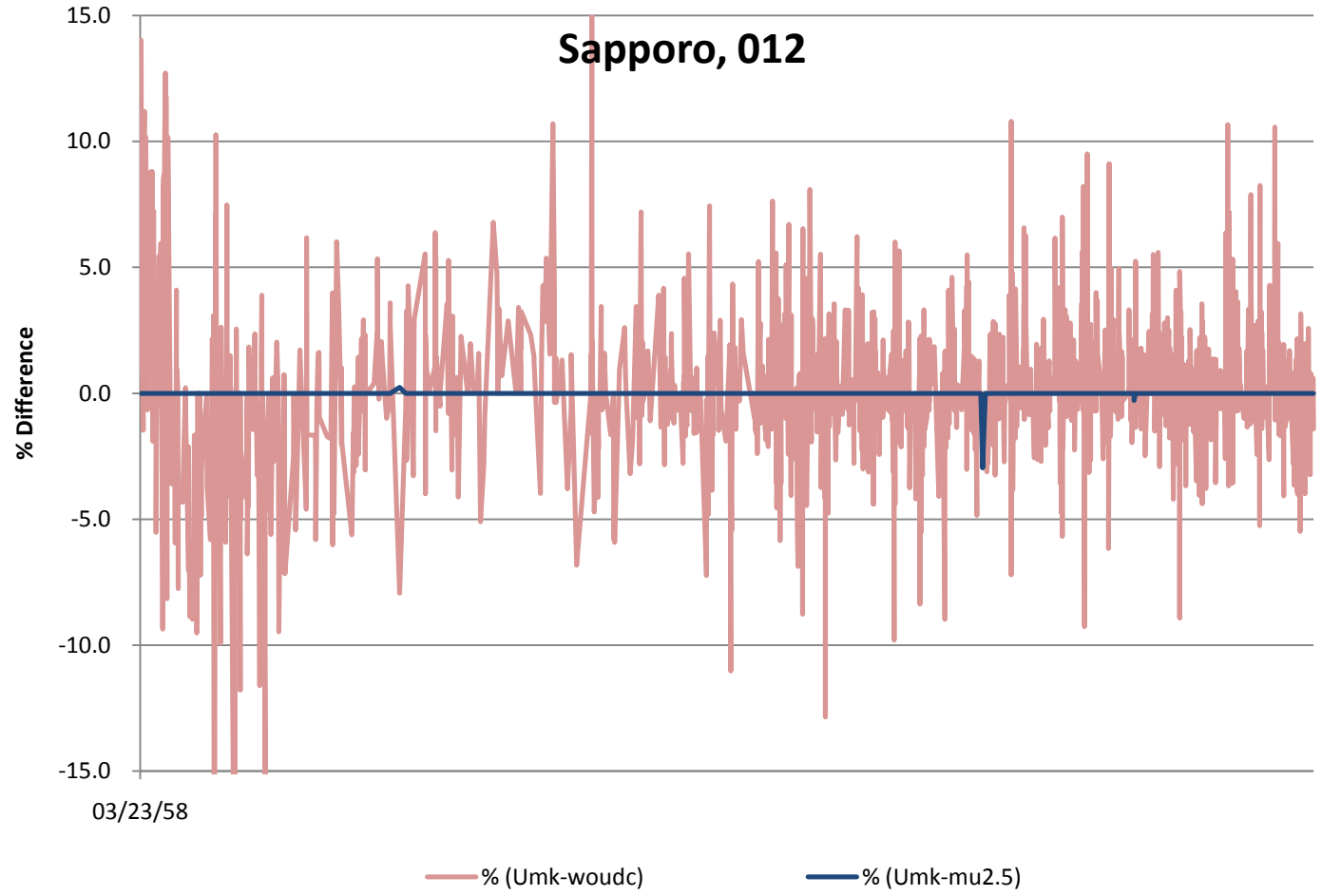
Umkehr data finds the mistake of total ozone value by this check (see page 6).
Sapporo
1958/10/06 AM Toz 306 > 318
1959/05/16 AM Toz 306 > 344
2005/12/03 AM Toz 361 > 412
2005/12/07 AM Toz 361 > 366
2005/12/07 AM Toz 364 > 360
2005/12/23 AM Toz 361 > 400
2007/01/03 AM Toz 397 > 345

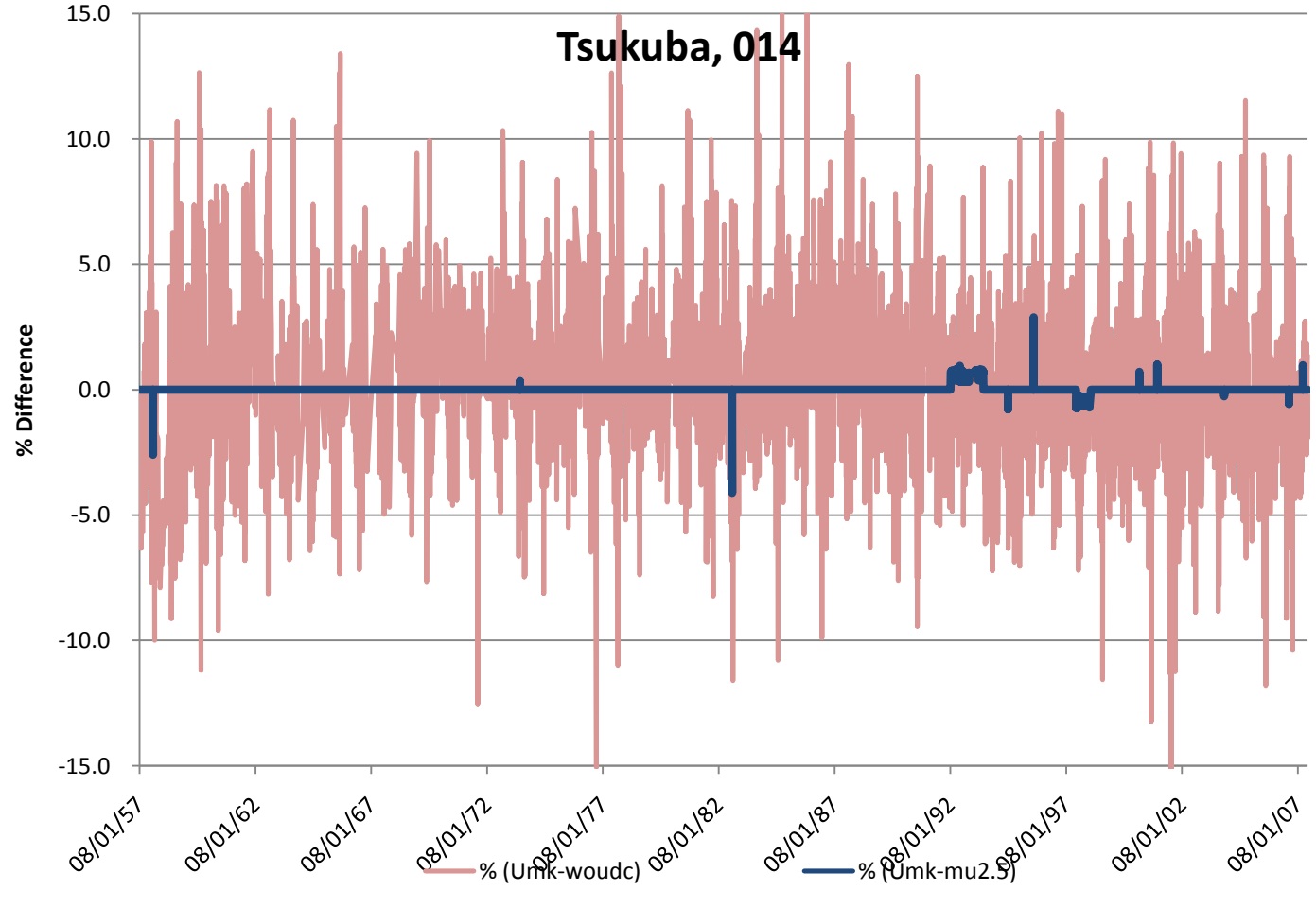
Kagoshima
1966/05/25 AM Toz 343 > 246

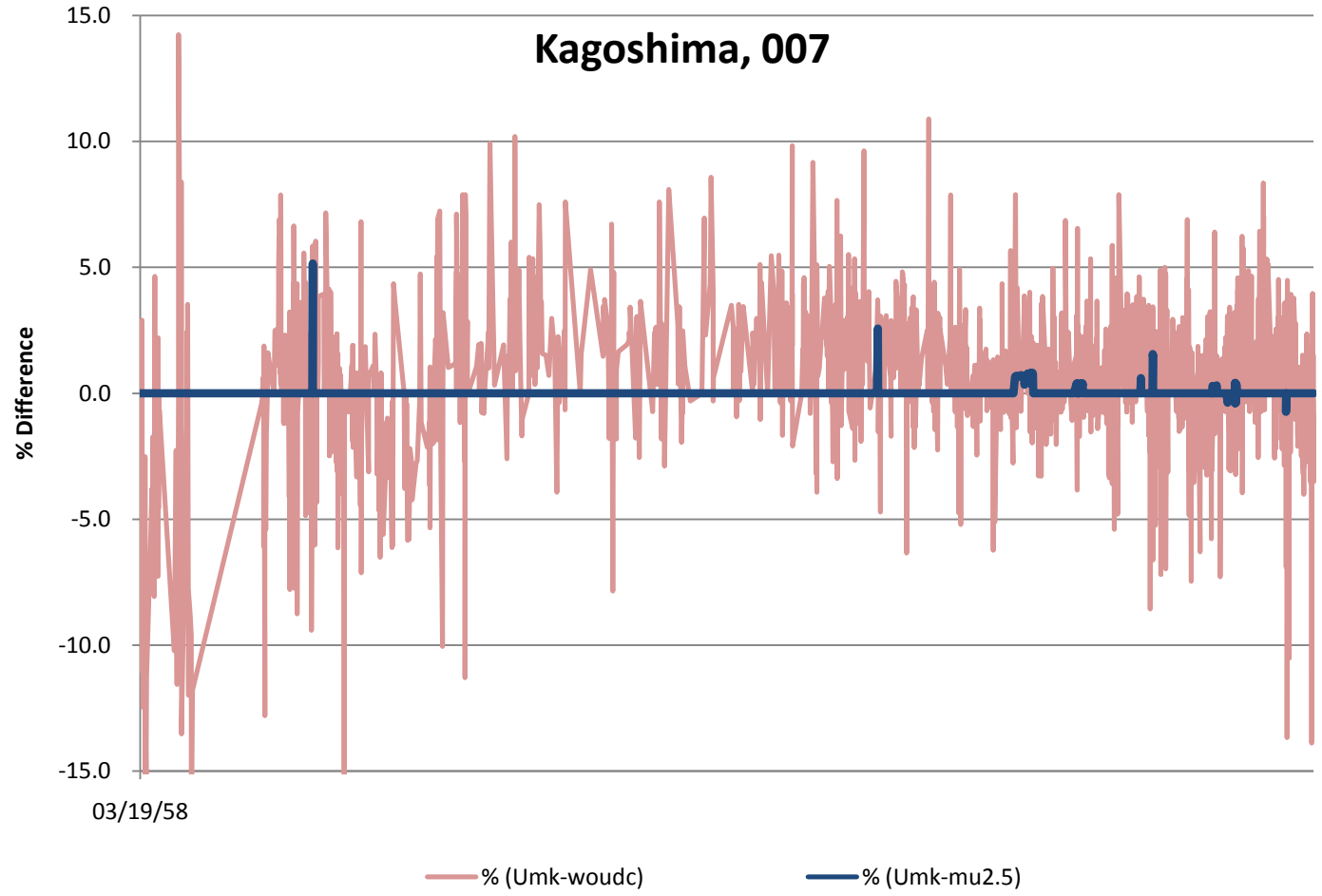


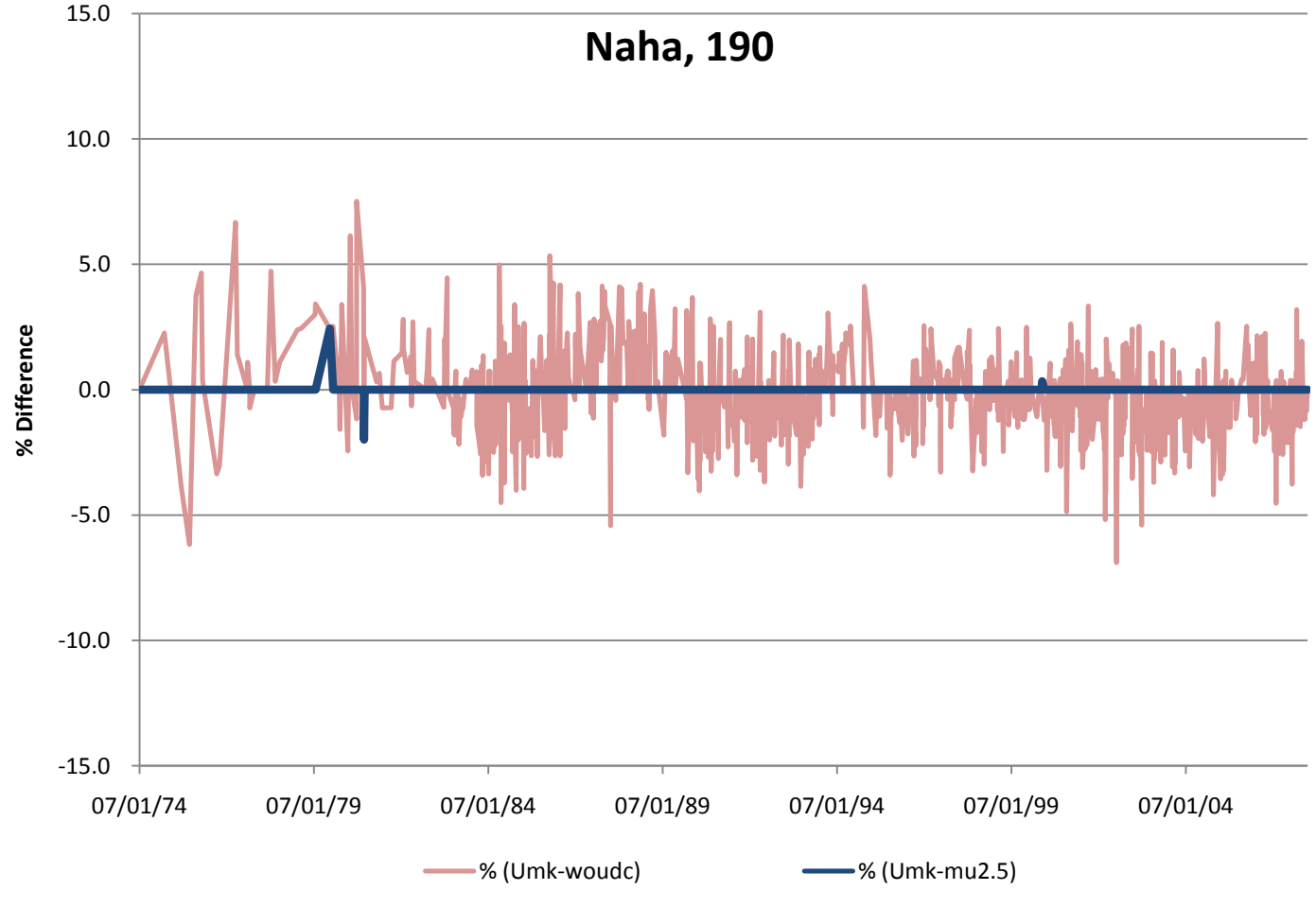


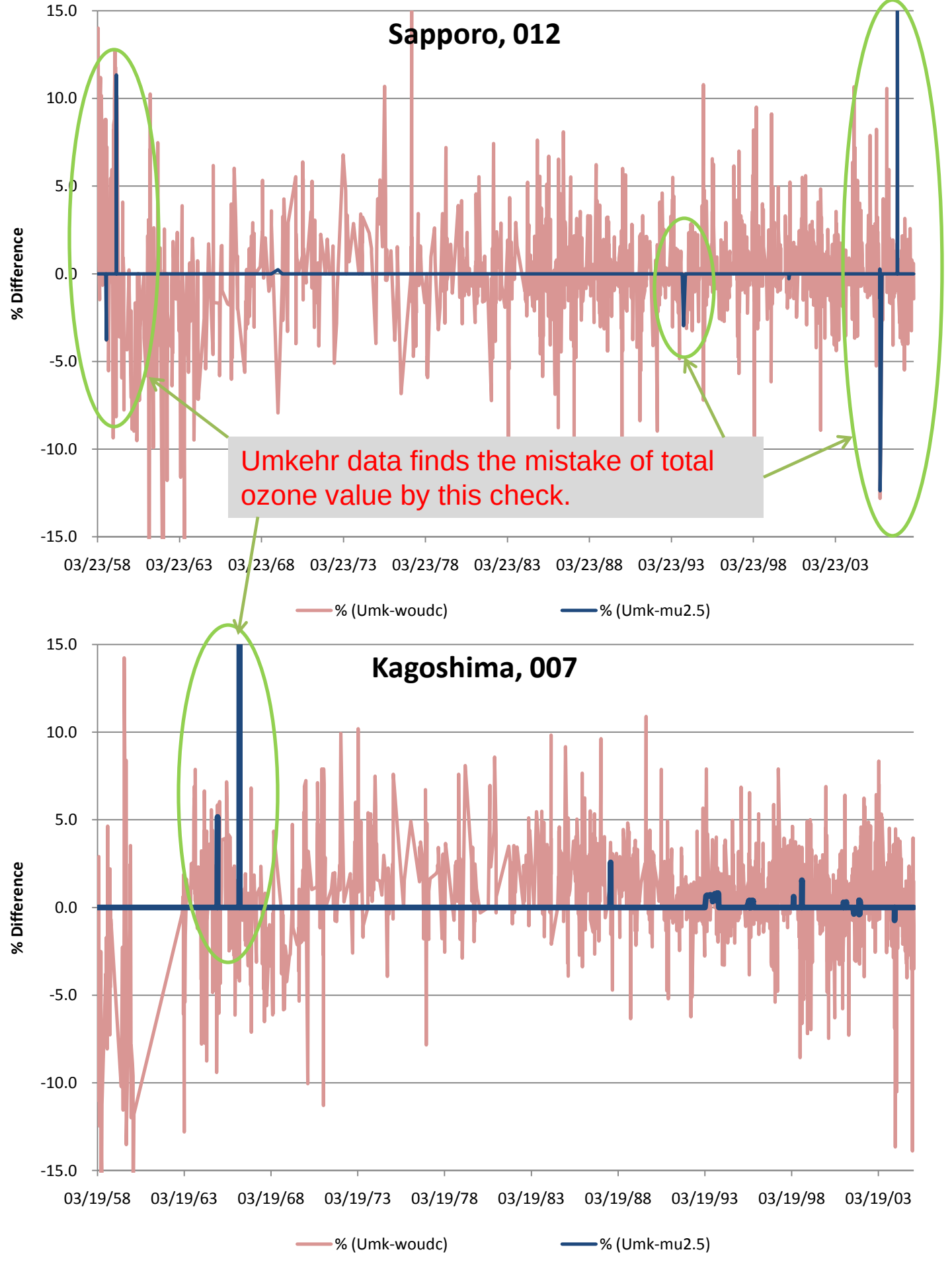
03125 140307 1300**403** 619 726 872 024 071 170 315 441 472 489 493 464 427 379 014


Sapporo, 012
% Difference
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
03/23/58
% (Umk-woudc)
% (Umk-mu2.5)


Tsukuba, 014
% Difference
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
08/01/57
08/01/62
08/01/67
08/01/72
08/01/77
08/01/82
08/01/87
08/01/92
08/01/97
08/01/02
08/01/07
% (Umk-woudc)
% (Umk-mu2.5)


Kagoshima, 007
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
% Difference
03/19/58
% (Umk-woudc)
% (Umk-mu2.5)


Naha, 190
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
% Difference
07/01/74
07/01/79
07/01/84
07/01/89
07/01/94
07/01/99
07/01/04
% (Umk-woudc)
% (Umk-mu2.5)


Sapporo, 012
% Difference
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
03/23/58
03/23/63
03/23/68
03/23/73
03/23/78
03/23/83
03/23/88
03/23/93
03/23/98
03/23/03
Umkehr data finds the mistake of total ozone value by this check.
% (Umk-woudc)
% (Umk-mu2.5)
Kagoshima, 007
% Difference
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
03/19/58
03/19/63
03/19/68
03/19/73
03/19/78
03/19/83
03/19/88
03/19/93
03/19/98
03/19/03
% (Umk-woudc)
% (Umk-mu2.5)