# Description of Met Office experiments

The files saved in this directory are given, along with a description of what changes were made in each experiment. All data were calculated using validity times of 8th September to 1st December 2022 (thus excluding the first week of validity times).

| Control\_stats.txt | Control experiment, using the default observation operator and the control set of observations |
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| AllObs\_stats.txt | Assimilating the full set of ROMEX observations |
| Control\_NewOp\_stats.txt | Control experiment, but using the “new” observation operator settings. Reduce the dry refractivity coefficient by 0.05% and the wet refractivity coefficient by 3.5%. Apply a bias correction above ~40km altitude. Use vertical smoothing (with smoothing kernel proportional to ¾ the model level spacing). |
| Control-C2\_NewOp\_stats.txt | Control experiment, but excluding COSMIC-2 observations. Using the “new” observation operator settings. |
| AllObs\_NewOp\_stats.txt | Assimilating the full set of ROMEX observations, using the “new” observation operator settings. |
| My\_20k\_NewOp\_stats.txt | Assimilating a unique set of 20,000 occultations per day, using the “new” observation operator settings. The satellites used in this experiment were: Metop FengYun3, Sentinel-6A PlanetIQ COSMIC-2 PAZ KOMPSAT-5 TanDEM-X and TerraSAR-X. Observations from Spire were also used, but only the following flight-model numbers: 113, 132, 133, 134, 135, 141, 143, 148, 149, 150, 162, and 163. |