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Multi-Technique Ground Target

The classical approach for co-locations of the space geodetic instrumentation, namely SLR, VLBI, GNSS and DORIS is to regularly measure local ties between the reference points. At the Geodetic Observatory Wettzell (GOW) we reestablish the local ties every other year, which do not show displacements larger than 1 mm. However one can identify noticeable discrepancies between the local survey the measurements of the techniques of space geodesy. The cause are systematic measurement biases, which are not correlated with the local ties measurements and are not captured by the established calibrations techniques. We have designed a novel calibration target, which is tying all different measurement systems to a single point on the observatory. The goal is to overcome the problem that local ties monitor only geometric distances between the reference points of the instruments. Multi-technique ground targets use the same signal originating from a common clock and the known respective path delay for tying the instruments to a single point of reference on the observatory. This provides both, intra- and inter- technique comparisons and delay control. The talk outlines the concept of the multi-technique ground target and shows the first experimental results.