Contributions to sub-MHz SLR in Graz

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Several SLR stations have started tests with higher (100 kHz of more) laser repetition rates to improve SLR results significantly, concerning number of shots per NP, NP acquisition speed, FR data precision, CCR signature determination, etc. SLR Graz is also exploring now such systems, testing several concepts for applicability.

- We develop a repetition-rate-independent (< 2 MHz) range gate generator for each shot to reduce noise during daylight ranging.
- Dynamic burst mode, depending on target distance: Laser firing is blocked for periods when returns are expected, to avoid backscatter collision / overlaps.
- The laser fires the first few shots of each burst with few kHz only to implement cloud and/or aircraft detection.

In this poster, first results of sub-MHz SLR in Graz are also presented.