Lasers for Satellite Laser Ranging (SLR) Applications

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Photonics Industries' RGL Series of picosecond (ps) laser are well suited for the Next Generation Satellite Laser Ranging System (NGSLR):

- Laser requirements:
    - Subnanosecond pulse width
    - Asynchronous PRF - 2 kHz
    - Software controllable

Specifically, Photonics Industries' RGL 532-2.5 LP has the following specifications:

- Wavelength 532nm
- Power level 5W @ 5kHz
- Repetition rate Single Shot to 5kHz,
    - external trigger
- Pulse energy 2.5mJ/pulse @ 2kHz
- Pulse width 50ps (Nominal)
- Pulse to Pulse Stability < 2% rms
- Spatial mode profile TEM00, M2 < 1.3

The RGL 532-2.5 LP has been successfully used by NASA as described in:

"An Overview of Satellite Laser Ranging (SLR)"

Jan McGarry NASA / GSFC / 694

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http://space-geodesy.nasa.gov/docs/2012/OverviewSLR_mcgarry_120606.pdf

Finally, the NGSLR optical bench design using the Photonics Industries' RGL 532-2.5 LP is described.