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Laser Station Design for the Global Light System for the Planned JEM-EUSO Extreme Universe Observatory CHRISTINE GEIER, MARTIN BURG, COLTON BIGLER, LAWRENCE WIENCKE, Colorado School of Mines — The JEM-EUSO Global Light System (GLS) will provide ground-based calibration and monitoring for the JEM-EUSO detector planned for the International Space Station (ISS). JEM-EUSO will use the atmosphere as a giant calorimeter to measure Ultra High Energy Cosmic Rays (UHECRs). The GLS will include twelve ground stations. All twelve will have calibration xenon flash bulbs and six will have steered lasers. The GLS laser stations will generate optical signatures by creating light tracks across the JEM-EUSO field of view. The lasers and xenon flashers will be used to benchmark the JEM-EUSO instrument during its mission since energy, duration and orientation of those sources can be controlled. In this presentation, we will describe a project to design and build a working prototype of a GLS laser station. In order to meet the specifications set forth in the design requirements, our design incorporates remote operation capability, solar power, and a controlled internal climate. These components are in addition to the laser and calibration system and steering mechanism. All components will be combined in a robust, durable design that can be deployed and operated in remote locations across the globe.

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