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Current and Future Scientific Investigations at GP-SANS LISA
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KEN LITRELL, Oak Ridge National Lab — The general-purpose small-angle neutron scattering beam line, GP-SANS, in operation since 2007, is optimized for investigation of structures with dimensions from 0.5 to 200 nm. Along with high neutron flux, sample environments can easily be integrated into the beam line providing the user a versatile temperature range from 30 mK to 1600 K. In addition, there are two cryomagnets (horizontal 4.5 T and vertical 8 T), pressure cells, stop flow cell, electrochemical cell, load frames and custom-build equipment available to users allowing for significant flexibility in experimental setup. GP-SANS has supported investigation of a diverse array of intriguing scientific topics, including polymer solutions, gel and blends, colloids, micelles, , molecular self-assembly and interactions in complex fluids, microemulsions, spin textures and magnetic domains in novel materials, porosity in geological materials and phase separation, grain growth, and orientation in metallurgical alloys.

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