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Commissioning subsystems of the 10 meter prototype NATHAN PRINS, Towson University, TOBIN FRICKE, CONOR MOW-LOWRY, MANUELA HANKE, Max Planck Institute for Gravitational Wave Physics — The best attempts at detecting the elusive gravitational waves are with L-shaped interferometers. Over the summer of 2014, I helped install subsystems of the 10 meter prototype, a gravitational wave interferometer designed to reach the Standard Quantum Limit (SQL), at the Max Planck Institute for Gravitational Physics in Hannover, Germany through the University of Florida's International REU. While there, the frequency reference cavity was aligned and the mode matching the cavity began. We also worked on installing and testing the intensity stabilization servo, which consisted of an out-of-vacuum photodiode for each the in-loop and out-of-loop sensing that were being connected to the LIGO Control and Data System.

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