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**Development of a modern Stellar Intensity Interferometer at the University of Utah.** NOLAN MATTHEWS, DAVID KIEDA, STEPHAN LEBOHEC, University of Utah, PATTY BOLAN, Boston College, ABIGAIL MCBRIDE, South Dakota School of Mines and Technology — Stellar Intensity Interferometry (SII) has recently been introduced as a viable method for performing high-resolution imaging of stellar surfaces by employing large air-cherenkov telescope arrays, typically used for gamma-ray astronomy. Unprecedented angular resolution scales on the order of tens of micro-arcseconds are attainable since the baseline separation between telescopes can be made very large (>100m) due to the relative insensitivity of the technique to atmospheric turbulence. Given these capabilities, it is possible to image oblate and binary star systems, stellar features such as star-spots, and potentially the silhouette of orbiting exoplanets. At the University of Utah we have been working towards a modern SII system and also operate the StarBase-Utah observatory, consisting of two twin 3m diameter telescopes located in Grantsville, UT. In this talk, I will outline the capabilities of the SII technique as well as describe the progress made in imaging simulated stars in the laboratory. Additionally, I will highlight the future goals of our group which include SII observations of stars this upcoming winter using the StarBase observatory.

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