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Image stacking through a geometrical phase retrieval algorithm for JWST[1] ELIZABETH CARLISLE, Abilene Christian University, SCOTT ACTON, Ball Aerospace & Technologies Corp., JAMES WEBB SPACE TELESCOPE TEAM, BALL AEROSPACE COLLABORATION — The James Webb Space Telescope is an 18-segment cryogenic telescope scheduled to be launched in 2018. Since it has a deployable primary mirror, part of its commissioning process requires aligning and phasing the mirror segments. The current proposed method, image stacking, is a long, complicated process that could take more than a week. Phase retrieval would be capable of handling the task, but it cannot handle large errors without a good starting estimate for the phase. We have adapted a geometrical phase retrieval (GPR) algorithm for use along with the traditional phase retrieval to phase the primary mirror. This talk will focus on the operation of the GPR algorithm, as well as a demonstration of its effectiveness.

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