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**Reduction in the divergence of Tomographic P.I.V. results, using the method of Projection Onto Convex Sets** THOMAS CLARK, TIMOTHY NICKELS, University Of Cambridge — Tomographic P.I.V. allows measurement of fully three-dimensional velocity fields within a region of fluid. Experimental error in the measurement process, combined with the differential nature of the divergence operator results in a large error in the divergence of the results. For incompressible flow, a technique is introduced to reduce the divergence of the output results using the method of Projection Onto Convex Sets (POCS). The "correction" is formulated using a Lagrangian multiplier and implemented through solution of the Poisson equation in a cuboid domain. In this talk, the formulation of the "correction" and the boundary conditions used are presented along with experimental results. Limitations of the technique and possible applications are discussed.

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