Abstract Submitted
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Implementing Hardy's Test of Local Realism[1] ZACHARY CARSON,
DAVID JACKSON, BRETT PEARSON, Dickinson College — We perform a test of
local realism based on Hardy's proposed method and its implementation by Carlson,
Olmstead and Beck. The test uses spontaneous parametric downconversion to pro-
duce polarization-entangled photon pairs (twins). The twins are sent down spatially
separate paths, through polarizing beam splitters, and into one of four channels of
a Single Photon Counting Module (SPCM). Correlation rates are then measured in
a manner capable of distinguishing between photon behavior predicted by quantum
mechanics and that predicted by local realism. Preliminary results will be given.

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