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Mode Division Multiplexing mixing Different Orthogonal Bases

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Mode Division Multiplexing (MDM) is an emerging technology which harnesses the spatial degree of freedom of laser beams to significantly increase the overall capacity of optical communication systems. Current research typically focusses on the use of Orbital Angular Momentum (OAM), however, MDM research has also been done into the use of orthogonal Laguerre-Gaussian (LG) or Hermite-Gaussian (HG) modes, which have two transverse degrees of freedom. In this work, orthogonal combinations of LG and HG modes are used for MDM as well as a novel application for increasing the resilience of free-space MDM links.

Apply to be
 considered for a student
   award (Yes / No)?

yes

Level for award
 (Hons, MSc,
   PhD, N/A)?

PhD

Main supervisor (name and email)
and his / her institution

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Would you like to
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no

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