

# **Nonlinear force dependence on optically bound micro-particle arrays in the evanescent fields of fundamental and higher order microfibre modes**

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## **Description for the supplementary movies:**

**Supplementary Movie S1. Propulsion of bounded three polystyrene particles in the evanescent fields of the fundamental mode (FM) of a 2  $\mu\text{m}$  fibre.** The power at the fibre waist is 30 mW.

**Supplementary Movie S2. Propulsion of bounded four polystyrene particles in the evanescent fields of the fundamental mode (FM) of a 2  $\mu\text{m}$  fibre.** The power at the fibre waist is 30 mW.

**Supplementary Movie S3. Propulsion of bounded three polystyrene particles in the evanescent fields of the higher order modes (HOMs) of a 2  $\mu\text{m}$  fibre.** The power at the fibre waist is 30 mW.

**Supplementary Movie S4. Propulsion of bounded four polystyrene particles in the evanescent fields of the higher order modes (HOMs) of a 2  $\mu\text{m}$  fibre.** The power at the fibre waist is 30 mW.