**Simulation Framework for a Visual-Inertial Navigation System**

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**Introduction** – We present a method to generate and transfer movement profiles from real world into simulation using a hand-held device, and a simulation framework to develop VIO based on a synthetic clone. We show the usefulness of our approach by analyzing the influence of motion blur on IPS.

**Results** – Simulation allows a systematic evaluation of parameter influences, which would be infeasible in real world. Exemplary for IPS, we could show a strong influence of motion blur on the accuracy on the VO component (1), but a correct behavior of the estimated uncertainty from error propagation (2).