



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Vision and Robotics Seminar

Room 1 ,Ziskind Building
on Thursday, Jun 21, 2018
at 12:15

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Technion

Reversible Harmonic Maps

Abstract:

Information transfer between triangle meshes is of great importance in computer graphics and geometry processing. To facilitate this process, a smooth and accurate map is typically required between the two meshes. While such maps can sometimes be computed between nearly-isometric meshes, the more general case of meshes with diverse geometries remains challenging. This talk describes a novel approach for direct map computation between triangle meshes without mapping to an intermediate domain, which optimizes for the harmonicity and reversibility of the forward and backward maps. Our method is general both in the information it can receive as input, e.g. point landmarks, a dense map or a functional map, and in the diversity of the geometries to which it can be applied. We demonstrate that our maps exhibit lower conformal distortion than the state-of-the-art, while succeeding in correctly mapping key features of the input shapes.