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USING LATTICE TOPOLOGY INFORMATION TO INVESTIGATE PERSISTENT SCATTERERS AT FACADES IN URBAN AREAS

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Abstract. Modern spaceborne SAR sensors like TerraSAR-X offer ground resolution of up to one meter in range and azimuth direction. Buildings, roads, bridges, and other man-made structures appear in such data often as regular patterns of strong and temporally stable points (Persistent Scatterer, PS). As one step in the process of unveiling what object structure actually causes the PS (i.e., physical nature) we compare those regular structures in SAR data to their correspondences in optical imagery. We use lattices as a common data representation for visible facades. By exploiting the topology information given by the lattices we can complete gaps in the structures which is one step towards the understanding of the complex scattering characteristics of distinct facade objects.

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