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Superstructures in Polytelluride Compounds with Square Nets: Are they "Everywhere"? Mercouri Kanatzidis, Dept. of Chemistry, Michigan State Univ., W. Shaw Lane, East Lansing, MI 48824 USA.

Many low dimensional polytelluride compounds often contain layers made of square lattice networks composed of Te. The properties of these materials are largely influenced by these square nets, and by their interaction with the remaining part of the structure. Relatively few are known for tellurium, e.g., LnTe2, Ln2Te5, and LnTe3, and K0.33Ba0.67AgTe2. These square Te nets have unstable electronic structures which can lead to structural distortions or charge density wave phenomena. The crystallographic details of observed modulations in these polytelluride compounds will be reviewed and discussed.