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DIAMOND-LIKE ORDER IN ZINC-BLENDE COMPOUNDS

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We show that the energy of substitutional randomization of atoms in zinc-blende compounds is surprisingly small. This suggests the existence of a new class of defects in these materials ("random aggregates"), which consist of

regions of $\lesssim 10$ atoms where the sites of the diamond lattice are randomly occupied by A or B atoms in place of the ordered AB crystal occupancy. The

structural and electronic properties of these defects are outlined.