

Properties of New Solid Solutions of Systems GeSe₂-CdTe, GeSe₂-HgTe and GeSe₂-HgS

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It was established that phase equilibrium in systems GeSe₂-CdTe, GeSe₂-HgTe, GeSe₂-HgS, GeSe₂-CdS are characterized by formation of the limited solid solutions on the basis of components GeSe₂ and A₂B₆ and of fourfold intermediate phases such as A₂GeSe₂Te₂. In these systems intermediate phases of structure A₂GeSe₂Te₂ are formed at temperatures 750 K (Hg₂GeSe₂Te₂; tetragonal; a = 7.50; c = 36.48 Å), 920 K (Cd₂GeSe₂Te₂; hexagonal; a = 5.69; c = 11.32 Å), 980 K (Hg₂GeSe₂S₂; hexagonal; a = 7.20; c = 36.64 Å), accordingly. In the system GeSe₂-HgS, at 1135 K, an intermediate phase Hg₄GeSe₂S₄ (monoclinic; a = 12.38; b = 7.14; c = 12.40 Å) is formed also. All found out fourfold compound to fuse incongruent. Dependences of properties of solutions on structure have been determined. Samples temper at high temperatures (on 5–10 K temperatures eutectic are lower).