DESTILOVANÉ KOVY VZÁCNÝCH ZEMIN PRO VÝZKUM A NAVRHOVÁNÍ FUNKČNÍCH MATERIÁLŮ

DISTILLED RARE-EARTH METALS FOR RESEARCH AND DESIGNING FUNCTIONAL MATERIALS

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Purification of rare-earth metals by vacuum distillation-sublimation and peculiarities of impurity composition of the purified metals are considered. The yttrium-group rare-earth metals are shown can be purified efficiently by vacuum distillation with respect to both metallic and interstitial impurities. The application of zone refining (by arc melting on a special-design horseshoes-shaped copper bottom) for the purification of cerium-group rare-earth metals is discussed. The rare-earth metals purified by the aforementioned methods can be used efficiently for fundamental research and designing new functional rare-earth-containing materials with special physical properties.

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