

ABSTRACT

ALLOY POWDER, PREPARATION METHOD THEREFOR, AND USE THEREFOR

The present disclosure relates to a method for preparing a category of alloy powder and an application thereof. By selecting a suitable alloy system and melting initial alloy melt through low-purity raw materials, high-purity alloy powder, and matrix phase wrapping high-purity alloy powder are precipitated during the solidification process of the initial alloy melt, and the solid solution alloying of the high-purity alloy powder is achieved at the same time. Alloy powder can be obtained by removing the matrix phase wrapping the high-purity alloy powder; high-purity alloy powder can also be obtained by removing the matrix phase wrapping the high-purity alloy powder at an appropriate time. The method is simple and can prepare a variety of alloy powder materials with different morphology at nano-scale, sub-micron level, micron level, and even millimeter level, which has a good application prospect in the fields such as catalysis, powder metallurgy, composite materials, magnetic materials, sterilization, metal injection molding, metal powder 3D printing, coatings and composite materials.