

Abstract

The present application provides a preparation method of a hydrogenated composite film and an optical filter, and relates to the field of optical film filter technologies; the preparation method includes: introducing inert gas and hydrogen into a reaction chamber, and bombarding at least two materials in the reaction chamber and the introduced hydrogen using plasma formed by the inert gas, such that the at least two materials are sputtered onto a substrate and react with hydrogen ions generated by the hydrogen to form a hydrogenated composite film layer. The hydrogenated composite film layer includes at least two materials, and the at least two materials are co-sputtered onto the same substrate using the sputtering technology to obtain a required material performance, so as to obtain the hydrogenated composite film layer with a refractive index greater than 3.5 and an extinction coefficient less than 0.005 under a wavelength of 700nm to 1800nm; the hydrogenated composite film has a higher light refractive index and less light absorption, and offset of a center wavelength with an angle is small in a case where light is incident at a large angle, such that the optical filter formed by the hydrogenated composite film has a better large-angle low-offset effect.