

METHOD FOR PREPARING A THIN LAYER OF FERROELECTRIC MATERIAL

ABSTRACT

The invention relates to a method for preparing a monodomain thin layer of ferroelectric material. The method comprises: implanting light species in a first face of a ferroelectric donor substrate in order to form an embrittlement plane and to define a first layer between the embrittlement plane and the first face of the substrate; assembling the first face of the donor substrate with a support substrate by means of a dielectric assembly layer; and fracturing the donor substrate at the embrittlement plane. The dielectric assembly layer (7b) comprises an oxide having a hydrogen concentration lower than that of the first layer (3) or preventing the diffusion of hydrogen to the first layer, or the dielectric assembly layer (7b) comprises a barrier preventing the diffusion of hydrogen to the first layer. The preparation method also comprises a heat treatment of the free face of the first layer in order to diffuse the hydrogen contained in the first layer and cause the multidomain transformation of a surface portion of this first layer, followed by a thinning of the first layer in order to remove at least the surface portion.

Fig. 1