CLAIMS

1. Method for fabricating a composite structure comprising a layer to be separated by irradiation, the method comprising the formation of a stack containing at least:

- a support substrate formed from a material which is at least partially transparent at a determined wavelength;
- the layer to be separated; and
- a separation layer interposed between the support substrate and the layer to be separated, the separation layer being adapted to be separated by exfoliation under the action of radiation having a wavelength corresponding to the said determined wavelength,

the fabrication method being characterized in that it furthermore comprises, during the said step for forming the composite stack, at least one treatment step modifying the optical properties in reflection at the interface between the said support substrate and the separation layer ~~or on the upper face of the support substrate on the opposite side from the face of the said substrate in contact with the separation layer~~;

wherein the treatment step comprises the formation of at least one antireflection layer at the interface between the said support substrate and the separation layer ~~and/or on the upper face of the support substrate~~; and

wherein, when an antireflection layer is formed at the interface between the support substrate and the separation layer, the composition of the antireflection layer varies gradually over its thickness so that its refractive index n2 is equal to n1 at its interface with the support substrate and is equal to n3 at its interface with the separation layer.

2. Method according to Claim 1, wherein the refractive index n2 of the said antireflection layer is substantially equal to $\sqrt{n1 \times n3}$, where n1 and n3 are respectively the refractive index of the support substrate and of the separation layer.

3. Method according to Claim 1 or 2, wherein the separation layer comprises a heating sublayer and an exfoliation sublayer,

$(2M + 1) \cdot \lambda/4$, M being an odd integer greater than or equal to 0 and λ being the said determined wavelength.

8. Method according to any one of Claims 1 to 7, wherein the treatment step comprises the formation of at least one rough layer at the interface between the said support substrate and the separation layer and/or on the upper face of the support substrate, the rough layer having a mean roughness level greater than or equal to 50 Å rms over a measurement field equal to at least 3 times the dimension of the zone of the said upper face to be irradiated with the said radiation.

9. Method according to Claim 8, wherein the formation of the rough layer is carried out at least by mechanical grinding or chemical etching.

10. Method for separating a layer from a structure as defined in any one of Claims 1 to 9, the method comprising irradiation of the separation layer through the support substrate of the said structure by means of incident light corresponding to the wavelength at which the support substrate is at least partially transparent, in order to induce weakening or separation by exfoliation of the said separation layer.

11. Composite structure comprising a composite stack formed from at least:

- a support substrate formed from a material which is at least partially transparent at a determined wavelength;
- a layer to be separated by irradiation;
- a separation layer interposed between the support substrate and the layer to be separated, the separation layer being adapted to be separated by exfoliation under the action of radiation having a wavelength corresponding to the said determined wavelength, and
- at least one antireflection layer at the interface between the said support substrate and the separation layer ~~and/or on an upper face of the support substrate~~,

the composite structure being characterized in that it furthermore comprises at least one layer modifying the optical properties in reflection at the interface between the said support substrate and the separation layer or on the upper face of the support substrate