

Surface chemical treatment for liquid gallium or gallium alloy mirrors

The invention relates to a method of treating a liquid gallium or gallium alloy surface for prolonged use as a liquid mirror. The method of the invention comprises the steps of :

- (a) contacting the surface of liquid gallium or gallium alloy with an aqueous solution of a halogenic acid to cause dissolution of any gallium oxide present on the surface, thereby obtaining an oxide-free liquid gallium or gallium alloy surface covered with a layer of the acid solution;
 - (b) adding to the acid solution an aqueous solution of a surfactant present in an amount to form a single bimolecular layer of surfactant at an interface between the liquid gallium or gallium alloy and water; and
 - (c) allowing a uniform passivating oxide layer to gradually form on the oxide-free liquid gallium or gallium alloy surface, the passivating oxide layer having surface irregularities smaller than 40 nm.
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