Wetting by gallium microdroplets and its eutectic Ga–In and Ga–Sn alloys of highly oriented graphite intercalated by alkali metal atoms

Akhmatov Z A[2,@], Sergeev I N[2], Khokonov A Kh[1,2,3], Tlenkopachev M R[2] and Margushev Z Ch[3]

[1] Institute for Nuclear Research of the Russian Academy of Science, Prospekt 60-letiya Oktyabrya 7a, Moscow 117312, Russia
[2] Kabardino-Balkarian State University, Chernyshevskogo Street 173, Nalchik, Kabardino-Balkaria 360004, Russia
[3] Kabardino-Balkar Scientific Center of the Russian Academy of Sciences, Inessa Armand 37, Nalchik, Kabardino-Balkaria 360051, Russia

[@] ahmatov.z@bk.ru

The effect of two-zone graphite intercalation and laser doping with potassium atoms on the contact angle of wetting by gallium microdrops has been investigated. It has been shown that intercalation of graphite with potassium leads to the effect of wetting the initially non-wettable basal plane of graphite. Scanning electron microscopy shows the effect of decreasing the wetting angle from 85° to 45° while reducing the size of gallium droplets from 5.4 to 1.43 μm. The experimentally found values of interfacial energies are compared with the Thomas–Fermi–Dirac statistical model [1].
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