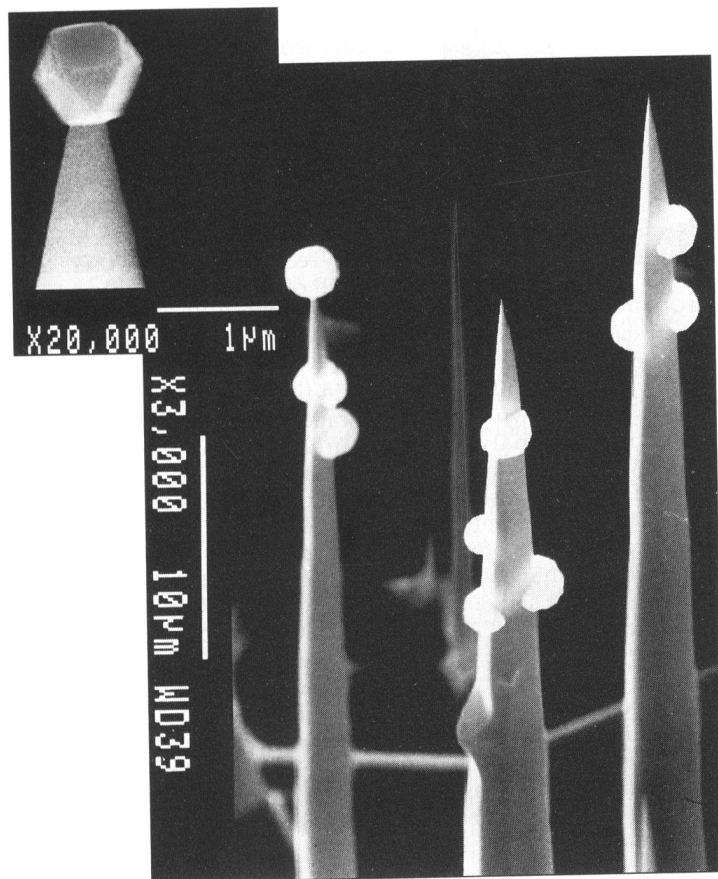


Figures appearing in *EDITOR'S CHOICE* are those arising from materials research which strike the editor's fancy as being aesthetically appealing and eye-catching. No further criteria are applied and none should be assumed. When taken out of context, such figures often evoke images beyond and unrelated to the original meaning. Submissions of candidate figures are welcome and should include a complete source citation, a photocopy of the report in which it appears (or will appear), and a reproduction-quality original drawing or photograph of the figure in question.



One of the pinnacles of materials preparation to which researchers had aspired for decades was synthesizing diamond. The main sticking point was finding a way to avoid conditions of intense heat and pressure that emulate nature's method. We all are well aware that this long quest peaked with the discovery that various CVD-like low-pressure deposition processes relying on gases like hydrogen and methane produce diamondlike films. Of course, the crowning success has been tuning and understanding the process to the point where the "like" can be dropped and real diamond is deposited. As if to mimic the majesty of this discovery, this month's *EDITOR'S CHOICE* figure shows diamond crystallites perched atop spires of silicon, a location they seem to strongly favor. The preparation of the sharpened silicon substrate, the hot-filament CVD deposition process, and parameters such as temperature and methane flow rates, can be found in E.I. Givargizov, V.V. Zhirnov, A.V. Kuznetsov, and P.S. Plekhanov, *Materials Letters* 18 (1993) pp. 61–63. Despite the resemblance to dew drops on blades of grass, these authors attribute diamond's preference for ultimate (and penultimate) positions to a thermal regime opposite to that employed by dew. Here the exothermic recombination of atomic hydrogen at the tips and edges of the silicon peaks causes differential heating that then disproportionately favors occurrence of endothermic methane decomposition on those sites. More facets to this story, as evidenced by the inset in the figure, come from more fiddling with the parameters as reported recently by the same group (A.N. Stepanova, et al., *Materials Letters* 22 (1995) pp. 285–288).

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