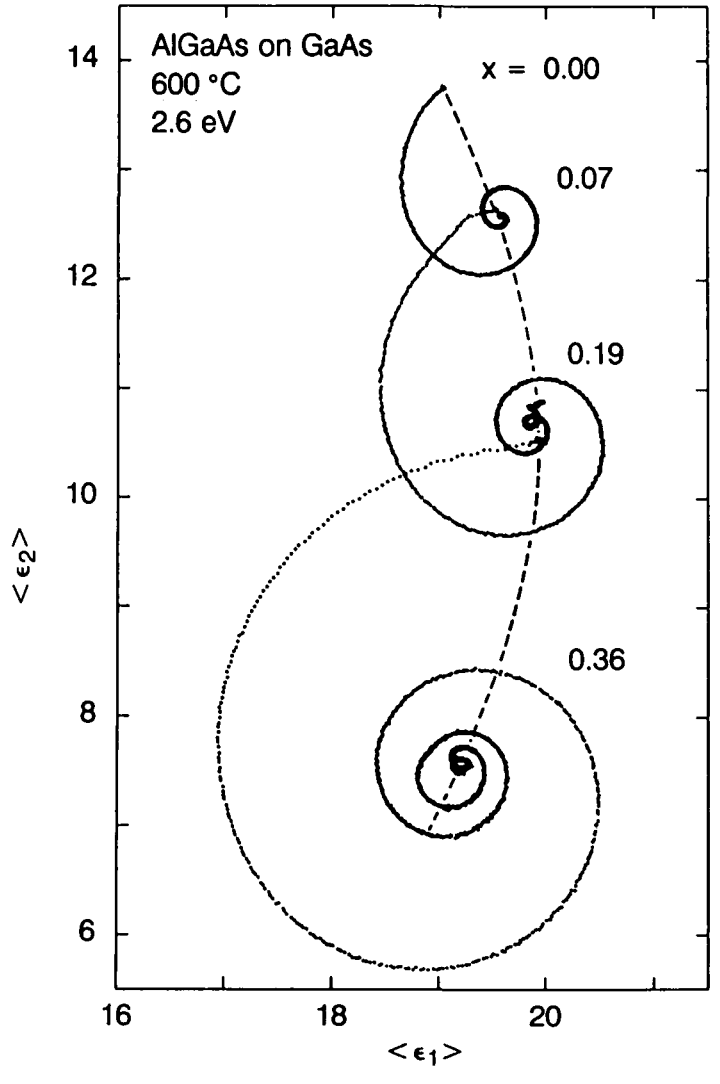
Figures appearing in the EDITOR'S CHOICE are those arising from materials research which strike the editor's fancy as being aesthetically appealing and eye-catching. No further criteria are applied and none should be assumed. When taken out of context, such figures often evoke images beyond and unrelated 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.



The exponential spiral is the expected form when optical properties of a film are plotted in the complex plane with film thickness as a parameter. EDITOR'S CHOICE has always found these data geometrically attractive. In fact the EDITOR'S CHOICE column was inspired and launched (Jan/Feb 1986 issue) as a result of seeing just such data presented at a conference. The version above, which displays the evolution of the pseudo-dielectric function of $Al_xGa_{1-x}As$ films with three different values of x as they are sequentially deposited on a GaAs substrate, is taken from a paper by D.E. Aspnes, W.E. Quinn and S. Gregory (*Appl. Phys. Lett.* **56**, 1990, p. 2569). Their study shows how ellipsometry may be used to monitor and control semiconductor crystal growth noninvasively. Not only are the data graphically attractive, but one cannot help but note that their meaning is enhanced by musical overtones of the treble-clef-like signatures they mimic.

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