# MRS BULLETIN

## February 1998

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ON THE COVER: The electronic structure of a 45-Å-high, 90-Å-base, strained InAs pyramidal quantum dot embedded within GaAs. The strain-modified band offsets (for holes and electrons) are shown above the atomic structure. They exhibit a well for both heavy holes and electrons. These are localized within the pyramid and wetting layer as shown by the blue raised (lowered) triangle and ridge (trough), respectively. Isosurface plots of the four highest hole states and four lowest electron states as obtained from pseudopotential calculations appear on the left and right. The lowest electron state-the conduction band minimum (CBM)---is s-like, while the next two states (CBM+1 and CBM+2) are nondegener-ate p-like. From J. Kim, L.W. Wang, A.J. Williamson, and A. Zunger (unpublished). The calculation was performed using the Cray T3E at the National Research Scientific Computing Center at the University of California-Berkeley. See also the article by A. Zunger on page 35 of this issue.

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