About the Cover

Extreme 3D visualization

The background image of this month's cover is a photograph included by Jonathan Borwein and David Bailey, perhaps somewhat whimsically, in their article on experimental mathematics. The photograph was taken for a publicity brochure for the now defunct New Media Innovation Centre in downtown Vancouver, British Columbia, an organization partially sponsored by Simon Fraser University, to which Borwein is affiliated. The two young men, who are graduate students in the the department of Electrical and Computer Engineering at the University of British Columbia, are in a kind of box with what might be called surround-projection. The approximate spheres are displayed in duplicate at rapidly alternating times in synchronization with the goggles they are wearing, so that what they see is a simulated 3D image, not just the flat projections on the walls on their box. The projections are interactive, controlled by input through a key pad held by Timothy Chen, the student on the right. The project the students are involved in is part of Mr. Chen's student work at U. B. C. What is being projected is a flow field of spheres in a cylinder with various obstacles interactively superimposed into the flow. The inset photographs are screen displays produced by Mr. Chen from the same project.

It's hard to imagine exactly what role such high end visualization technology will play in mathematical research, but not impossible. One likely application for similar, but not quite so sophisticated, display systems might very well be in public presentations. The effects can be spectacular.

Brian Corrie of Simon Fraser University provided us with the digital version of the background photograph.

—Bill Casselman, Graphics Editor
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