1056-03-1098   **Ovidiu Costin*** (`costin@math.ohio-state.edu`), 231 w 18th ave, Math Tower, Columbus, OH 43210. *Surreal numbers and real analysis.*

A major open problem in surreal number theory is whether there exists a definite integral satisfying the basic properties of integration, and applicable to a wide enough class of functions (including say at least all elementary and special functions).

The implications to (usual) analysis of surreal integration, if indeed one exists, are likely to be major, for instance in understanding the global behavior of solutions of ODEs and PDEs.

I will describe the question, its importance, the progress made and remaining difficulties.

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