Peter D. Lax

ABEL PRIZE LAUREATE 2005

HELGE HOLDEN

SHORT SUMMARY

The laws of nature are described by mathematical equations called differential equations. Examples are Newton's laws of gravitation, Maxwell's equations for electromagnetism, and the Navier–Stokes equations that describe the motion of gases and fluids. These and other differential equations are very complicated to study, and except for simple, special cases, their solutions are not given by formulas. Approximate solutions may be computed using highspeed computers. This year's Abel Prize Laureate, Professor Peter D. Lax from New York University has given fundamental contributions to our understanding of several important classes of differential equations and shown howto compute their approximate solutions. Applications include the flow of oil in a petroleum reservoir and the motion of gases.

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