Numerical Methods For Partial Differential Equations and Early Days of Computational Physics

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In this talk I will describe some of the finite difference methods of numerical integration for hyperbolic and parabolic differential equations, which were developed in 1951 within the framework of the Soviet atomic project. Later the results played a basic role in constructing most of known implicit finite difference methods, which are widely used in scientific research and engineering. I will present the implicit difference schemes and the marching computations in the form, in which they were derived for the first time.