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Qin Sheng* (qin_sheng@baylor.edu), Department of Mathematics, Baylor University, One Bear Place, Waco, TX 76798-7328. *The Legacy of ADI and LOD Methods and Their Applications for Solving Highly Oscillatory Wave Equations*. Preliminary report.

This talk concerns the numerical solution of partial differential equations. We are particularly interested in finite difference method based splitting methods. The ADI and LOD approaches are two of them with extraordinary features in structure simplicity, computational efficiency and flexibility in applications. They look similar, but are fundamentally different. Naturally, they lead to different ways of operations, and offer different strategies in computational realizations. This talk will provide an insight into the glorious history of these numerical methods, and discuss some of their latest reinforcements including applications for solving highly oscillatory wave equations. (Received June 17, 2015)