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Review text:

First, some clarification: in the context of, typically, heat propagation and/or (magneto)hydrodynamics along a line one pays attention to the difference boundary-value problem on a lattice or "grid" or "net".

The recommended trick is that one reduces the second-order equation for intensities $y(x)$ on the grid to the system of the first-order equations for $y(x)$ and the first differences or "flows" $w(x)$. At generalized boundary conditions one rotates the intensities $y(x)$ and flows $w(x)$ into certain "orthogonally rotated" two-dimensional vectors $\vec{s}(x)$ with evolution controlled by the matrices which are lower triangular for certain grid-point-dependent rotation angles $\alpha(x)$.

One ends up with the algorithm which solves the problem as decoupled recurrences "from left to right" for the upper components of $\vec{s}(x)$ and then, similarly but in the opposite direction, for the lower components of $\vec{s}(x)$. Recommended by the authors whenever the "flows" play a central role since their solution method incorporates them directly. The use of rotations may also make the stability achievable under reasonably weakened constraints.