A Schur complement approach to a general extrapolation algorithm

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This work is devoted to a Schur complement approach to the E–transformation which is the most general scalar sequence transformation known so far for accelerating the convergence. A new derivation of known results on Schur complements is given in the first part of the paper. Then, Schur complements and their properties are used to obtain various interpretations of the E–transformation. The recursive rules of the E–algorithm for its implementation are also recovered. New results on its kernel are derived and issues on its convergence are discussed. This approach can be extended to the vector case, thus leading to new vector sequence transformations.

This is a joint work with Claude Brezinski from University of Lille.