

Landmark papers on IMEX schemes

- Crouzeix 1980, Numerische Mathematik: only in French
- Varah 1980 (CNLF, extrapolated BDF, applied to viscous Burgers' eqn.)
- Cooper & Sayfy 1983: Runge-Kutta up to order 4
- Frank, Hundsdorfer, Verwer 1997 (Stability analysis of IMEX multistep)
- Development of some higher-order schemes: Ascher, Ruuth et. al.; multistep (1995), Runge-Kutta (1997)
- Development of wide range of schemes for fluid-dynamical problems (advection-diffusion-reaction): Kennedy & Carpenter 2003
 - Up to 5th order with a wide range of design considerations and extensive testing

Application-specific IMEX method design

- Hyperbolic problems with relaxation terms:
Pareschi & Russo 2005
- Astrophysical fluid flow: Higuera et. al. 2014
- Particularly complex application and a nice example of getting a huge speedup by using an appropriate time integrator

Generalized additive Runge-Kutta

- Sandu & Gunther 2015