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Algorithmic improvements in the Trinity, GS2, Gryffin, AstroGK(S) suite of codes WILLIAM DORLAND, ANJOR KANEKAR, University of Maryland, MICHAEL BARNES, MIT — We present an overview of major upgrades to the family of gyrokinetic codes that includes... **Trinity:** Time-dependent gyrokinetic transport, integrated with numerous gyrokinetic turbulence and stability codes, including Gryffin (below). **GS2:** Widely used gyrokinetic turbulence and stability code. **Gryffin:** Gyrofluid turbulence and stability code, with new closure to model the effects of the nonlinear cascade of free energy on low-order fluid moments. **AstroGK(S):** Gyrokinetic turbulence code derived from GS2; toroidal geometry removed to accelerate development and applications for non-toroidal systems (such as the solar wind). The fully spectral version (AstroGKS) will be presented in some detail.

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