

- Our work extends similar parametrizations obtained at 1PN & 2PN orders by Damour & Deruelle (1985), Damour & Schäfer (1988) and Schäfer & Wex (1993).
- The expressions for n & k , expressed in terms of E , L , m_1 and m_2 are **gauge invariant quantities**.
- The three eccentricities e_r , e_φ and e_t are connected by PN accurate relations involving E , L , m_1 and m_2 .
- Our parametrization will be required to
 - **Construct search templates for binaries in eccentric orbits**
 - **Construct gauge invariant ‘diagnostic tool’ for general relativistic numerical simulations**
 - **Construct ‘timing formula’ relevant for Square Kilometer Array (SKA)**