

GW phase signatures of dynamically formed black hole binaries

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Eccentric binaries in dynamical channel: how to identify from GWs?

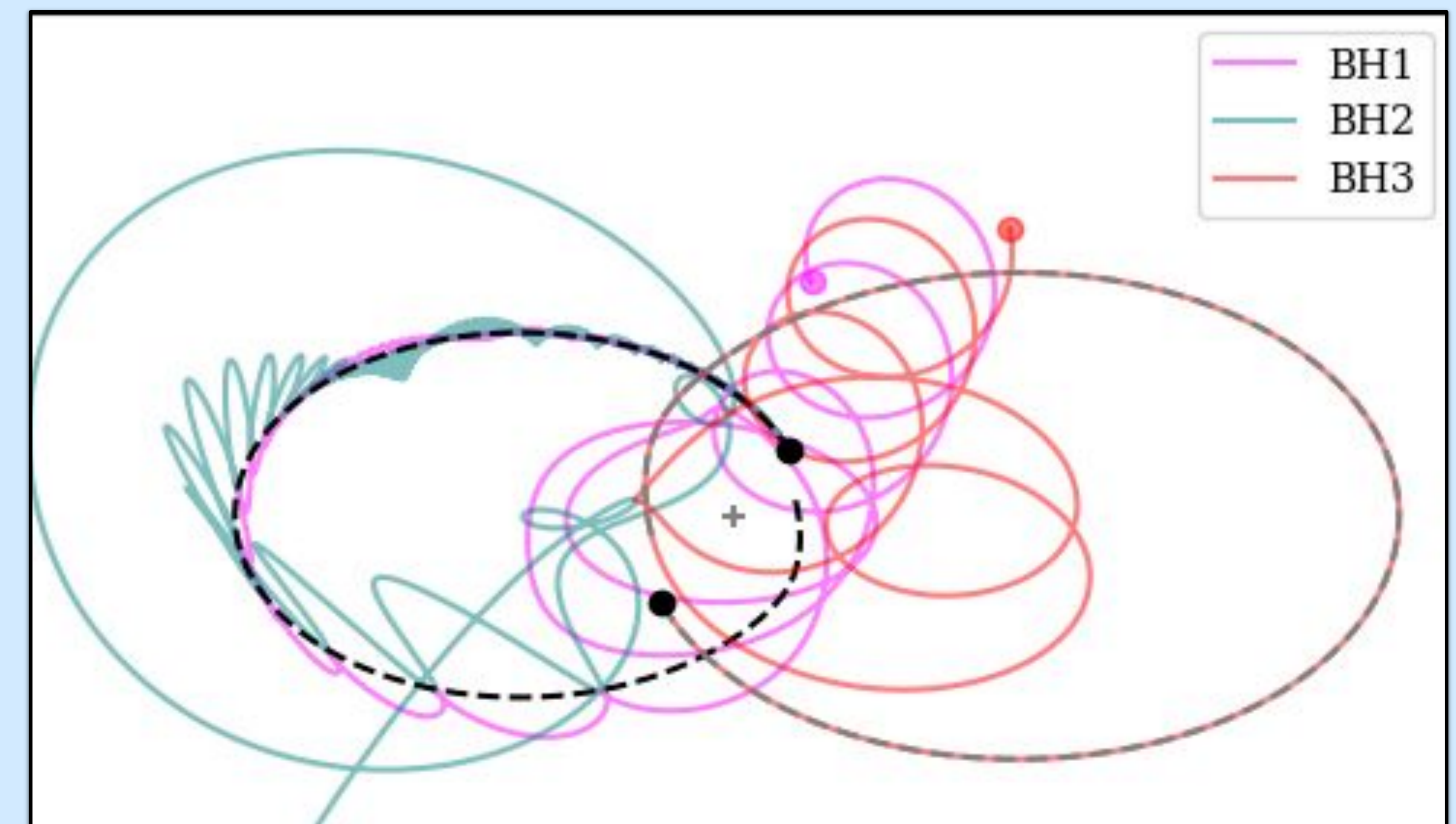
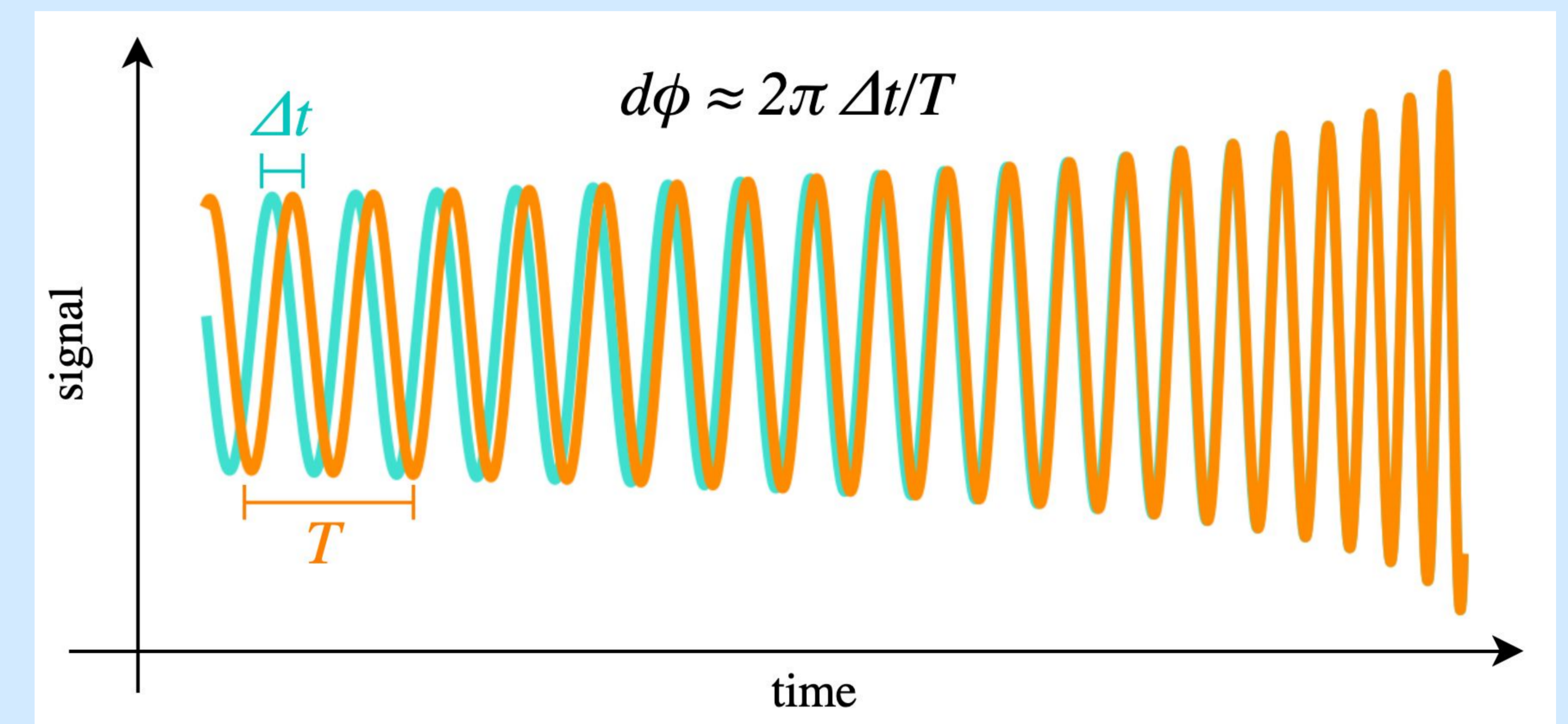
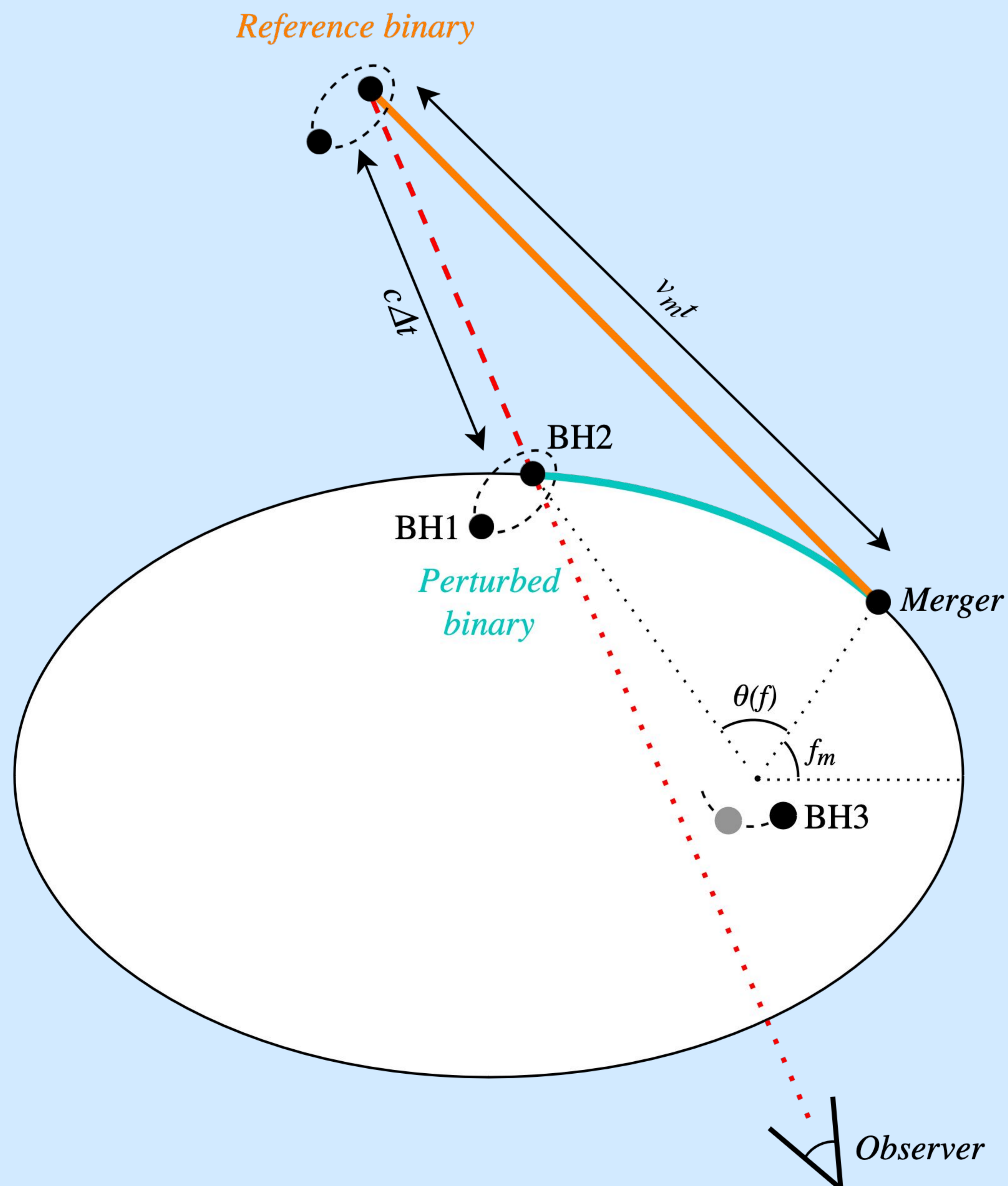


Fig. 1: **Left:** illustration of our setup. **Turquoise:** inspiral of an **eccentric** BBH on an **eccentric** orbit around a third BH. **Orange:** path of the binary if it had been isolated. The observer sees a Rømer time delay Δt between the two paths resulting in a phase-shifted GW signal. **Top right:** phase-shifted gravitational waveform due to the presence of a third object. **Bottom right:** chaotic scatterings in globular clusters: ideal environments for phase shifts!