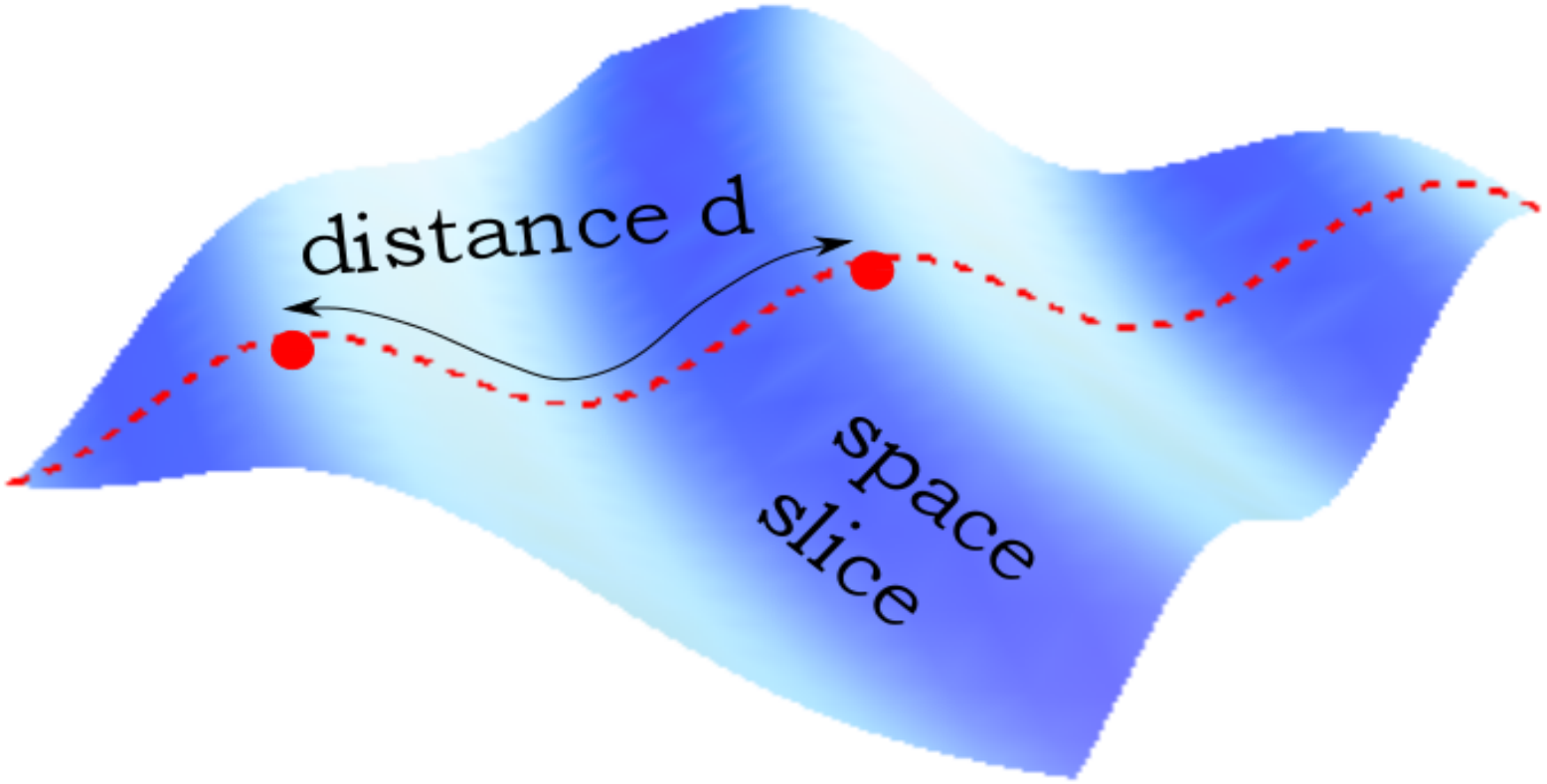
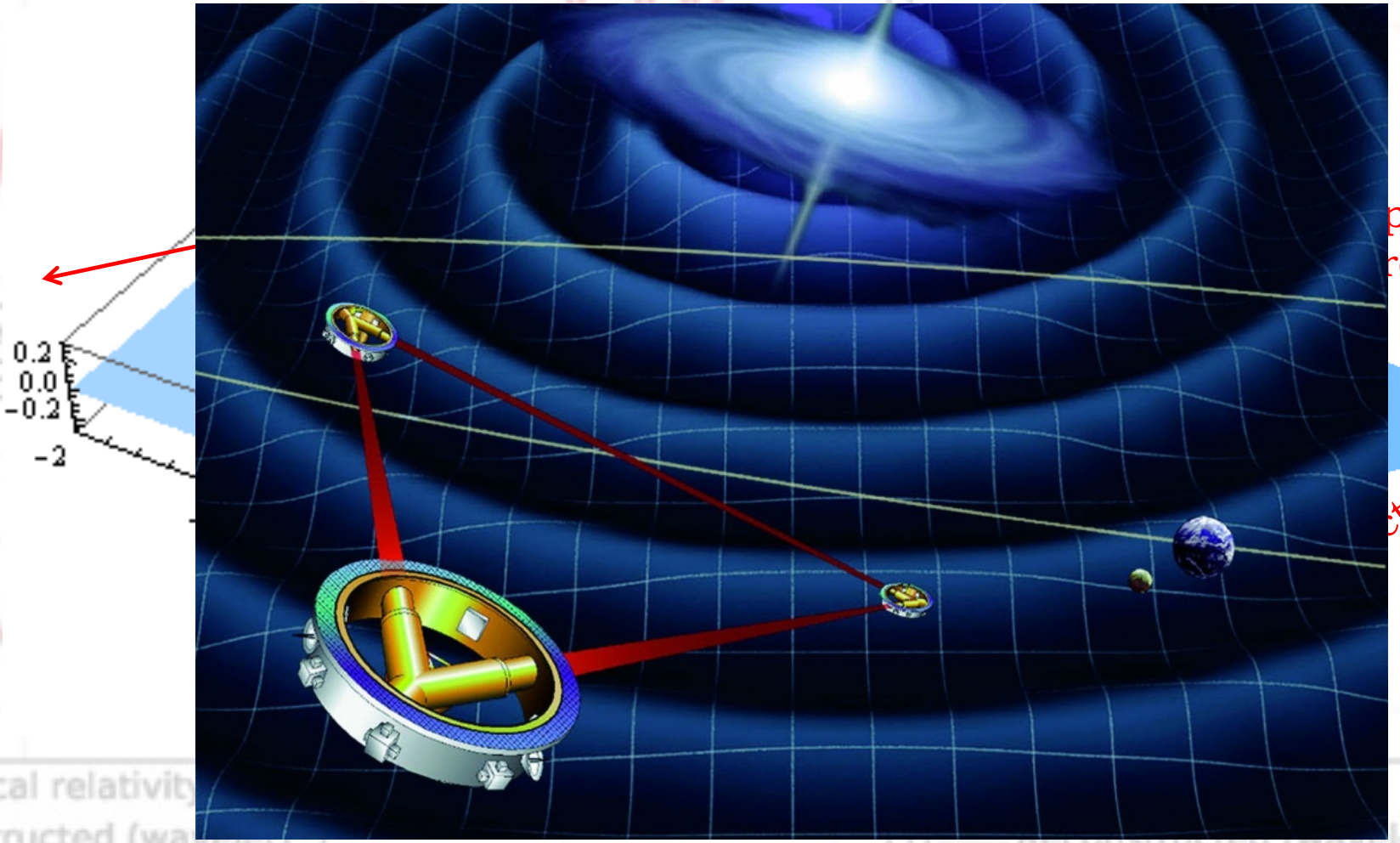
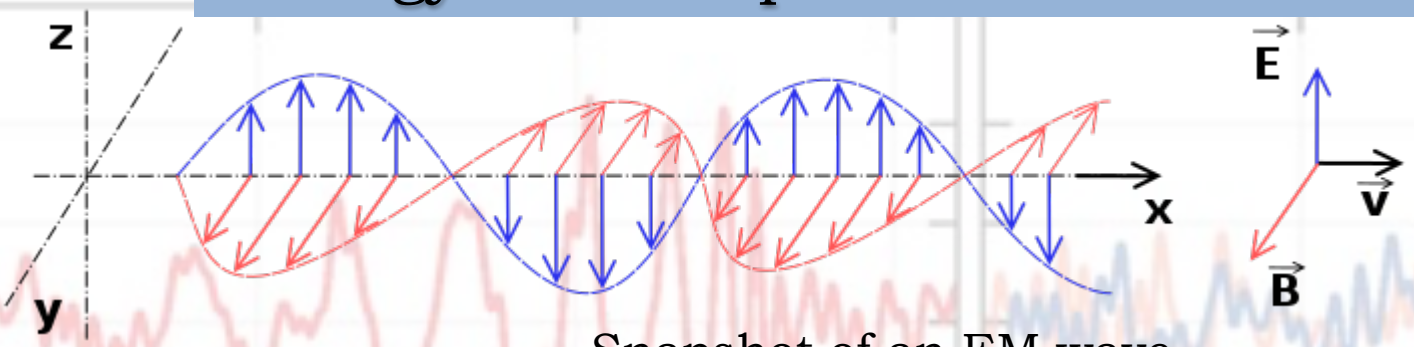
The field $h^{TT}_{\mu\nu}$ measured through variations of proper distance on spacetime



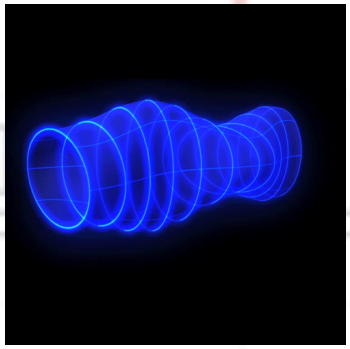
Depicting a real GW



Analogy between polarizations in EM and GW

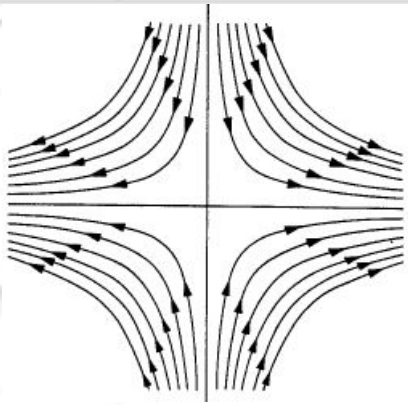


Snapshot of an EM wave



The effect of a GW on a series of circular coaxial necklaces

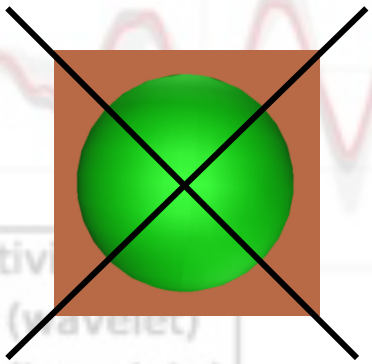
The **E** field of a polarized EM wave at a point

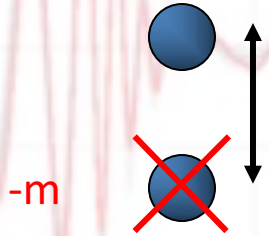


The tidal field of a GW at a point

The basic difference between EM and GW

- EM waves are produced by accelerating charges, e.g., two opposite charges attracting each other (the **E**, **B** field at some point is proportional to the 2nd time derivative of the dipole moment).
- GW are NOT produced by monopole variations (like EM). Neither by variations of dipole (since there are no negative masses → no dipoles at all). They are produced by variations of quadrupole moments (e.g., rotating melons).





No more (tidally distorted) cartoons