**Transformed E&M I materials**

**Conductors + Capacitors**

**(Griffiths Chapter 2)**

**STUDENT DIFFICULTIES**

* Didn’t realize that E outside a conductor would change when you placed a charge q on the outside of the conductor. Somehow thought that the conductor would also shield from changes on the outside of the conductor? There are many tricky conductor problems which require some deep thought, such as – *What is the distribution of charge on the outside of a conductor when a charge q is placed inside an off-center cavity inside the conductor? (Is it uniform or off-center?). Why?* These questions can make students think about their understanding of conductors.
* Students grasp the essential features of conductors, but may have trouble applying it to real problems (as seen in common errors in Griffiths 2.36). Tapping their conceptions through clicker questions which differ from the simplest conductor problems may be a useful way to help them understand conductors in a deeper way.