OGWARTS: Optical Gravitational WAve Rapid Transient Search

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The problem:

- There are 10-100 optical transients within the gravitational wave error circle appearing every night.
- The latency in identifying and reporting a transient in the the early stages of ALIGO/VIRGO makes it challenging to use temporal simultaneity.

The brute force solution:

- Monitor the entire dark sky from across the globe continuously
- Use 500 commercial 12” telescopes with 100 deg^2 fields of view at 20 sites
- Use unfiltered CCD to maximize sensitivity with 60s readouts
- Roboticize the telescopes such that the “domes” can be opened and data taking can occur remotely depending on local weather conditions
- Transmit relevant images back only when there is a contemporaneous ALIGO/ VIRGO event.

- Process data in pasadena and transmit back to the community location of plausible candidates. Ideally, this can be achieved within 5 minutes of GW trigger.
- Undertake optical polarization observations, if possible, with ROBOPOL.