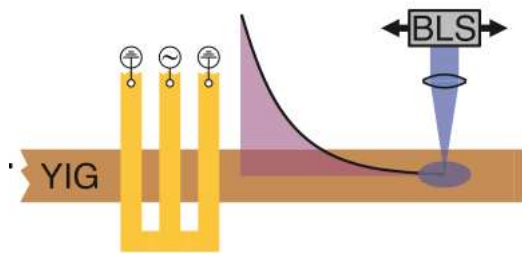**Project n. 22**

Consider a nano-stripe of YIG with 50 nm thickness and width of 500 nm. Spin waves are excited on the left by a coplanar waveguide antenna and propagate along the conduit, as described in the paper by B. Heinz et al. Nano Lett. 2020, 20, 4220−4227.

1. in the backward volume configuration (i.e. with a small field H_x along the conduit) determine the SW dispersion

2. keeping fixed said field along the conduit apply now an additional in-plane field (H_y) perpendicular to the conduit and investigate the evolution of the SW dispersion relation as a function of the field intensity

3. suppose now that this transverse field is applied only in a central portion of the conduit, 0.5 μm long, and evaluate the impact on SW propagation.

From B. Heinz et al. Nano Lett. 2020, 20, 4220−4227