

Viaspec Fiber Routing Concepts

May 15, 2023

Daniel Fabricant

Fiber elevation chain terminates in support structure fixed to structure that rotates with azimuth. At the MMT the building rotates in azimuth.



Fiber elevation chain begins at the exit of the fiber derotator fixed to the telescope cell.

Figure 1. Hectospec fibers travel inside the elevation energy chain at the MMT, here shown with the telescope pointed to low elevation.



Figure 2. Fiber elevation energy chain with telescope pointed to high elevation.

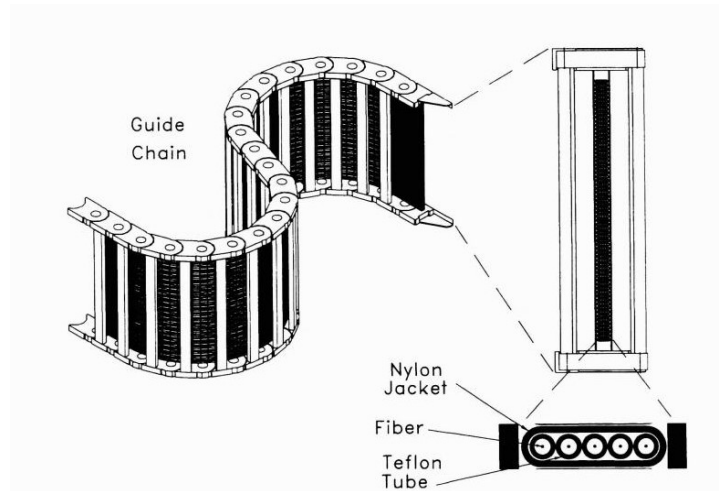


Figure 3. The optical fibers will travel on the neutral axis of a controlled-radius cable carrier in the fiber derotator and between the fiber positioner and the bench spectrograph.

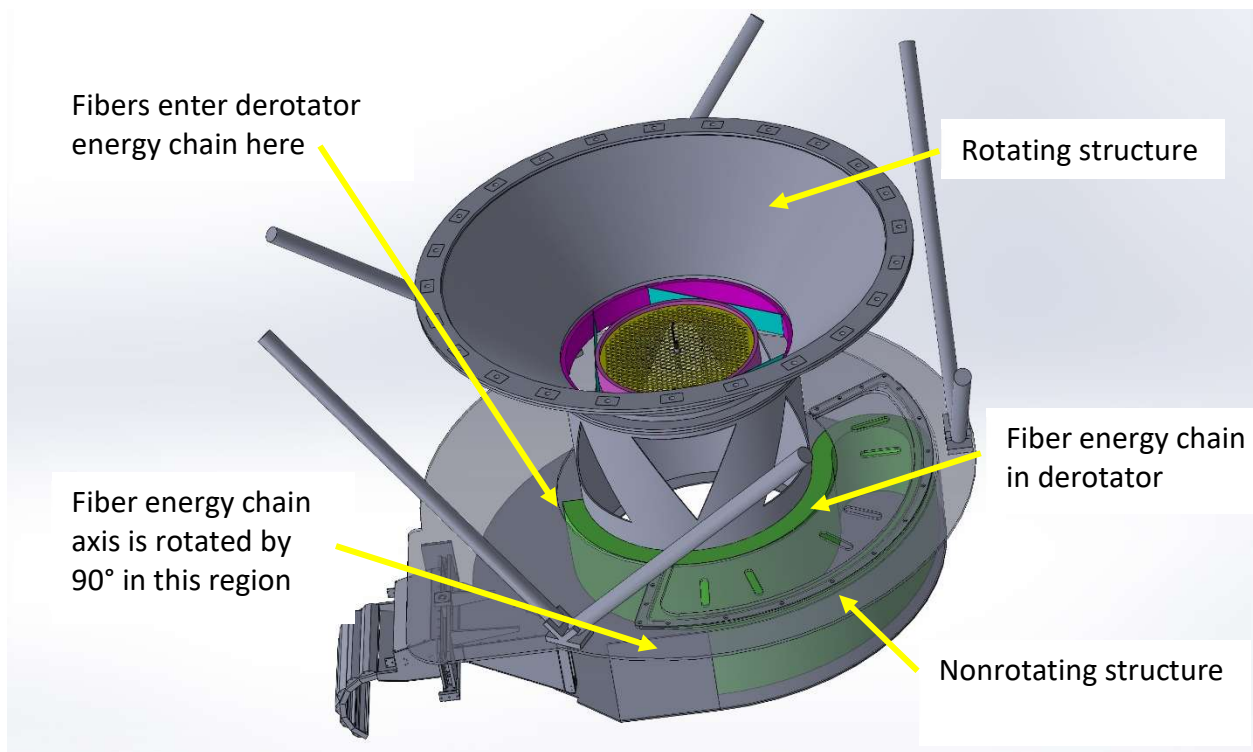


Figure 4. Fiber derotation routing in fiber positioner.

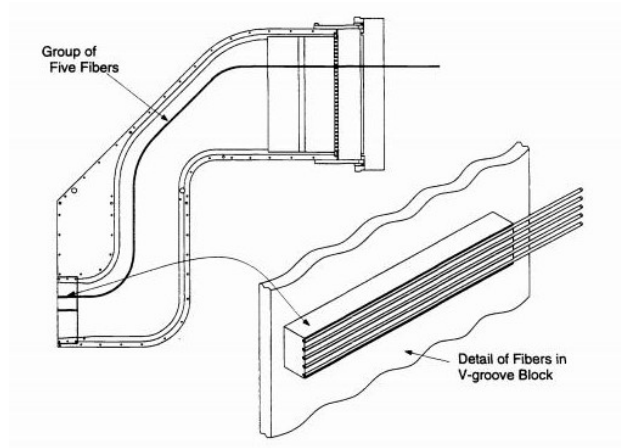


Figure 5. At the input to the spectrograph the fibers will be arranged in a pseudoslit or “shoe” to illuminate the collimator mirror at the correct angle while minimally blocking the return collimated light passing to the rest of the spectrograph optics.



Figure 6. Hectospec fiber shoe.