Small-Core Omniguide Fiber

Three bilayers of tellurium ($n=4.6$) / polystyrene ($n=1.6$)

Purcell effect yields strong emission at cutoff frequency

Density of States

- **Local density of states:**

\[
g(\omega, \vec{r}) = \sum_{n,k} \epsilon(\vec{r}) \left| \vec{E}_{n,k}(\vec{r}) \right|^2 \delta(\omega - \omega_{nk})
\]

- **Predicts high emission near cutoff frequencies:**

\[
g(\omega, \vec{r}) \sim \sum_n \frac{\left| \vec{E}_n(\omega_n r/c) \right|^2}{\sqrt{\omega - \omega_n}}
\]

- **Time domain calculation agrees with semi-analytic bandstructure calculation** (Gilat-Raubenheimer method)