

円錐台形状の光ファイバ先端に設けた非対称金属/誘電体/金属構造 + サブ波長サイズ開孔構造とファイバ伝播光との相互作用

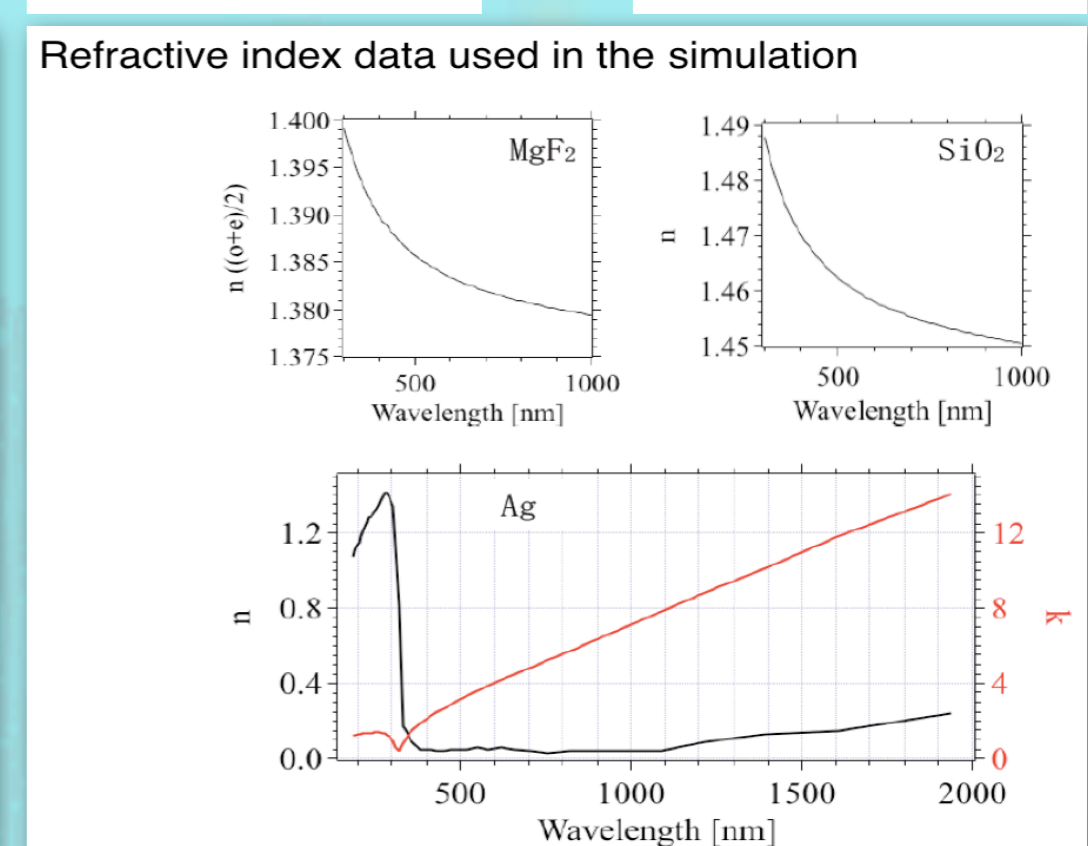
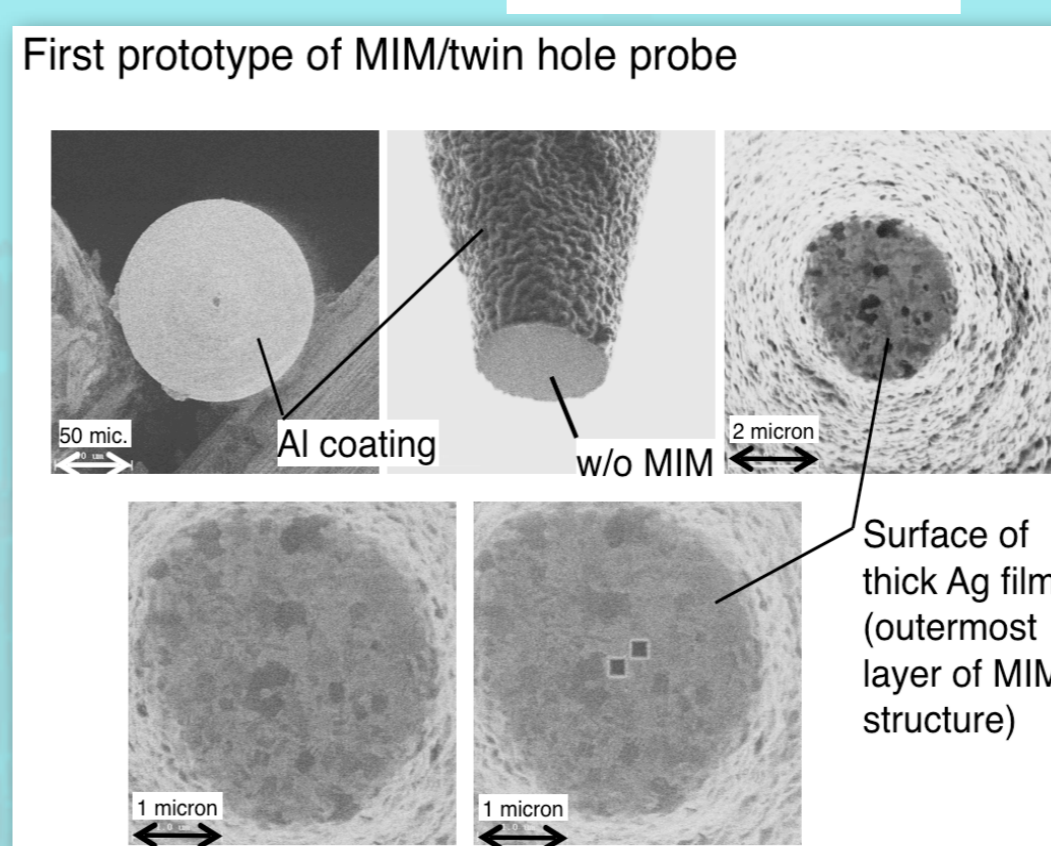
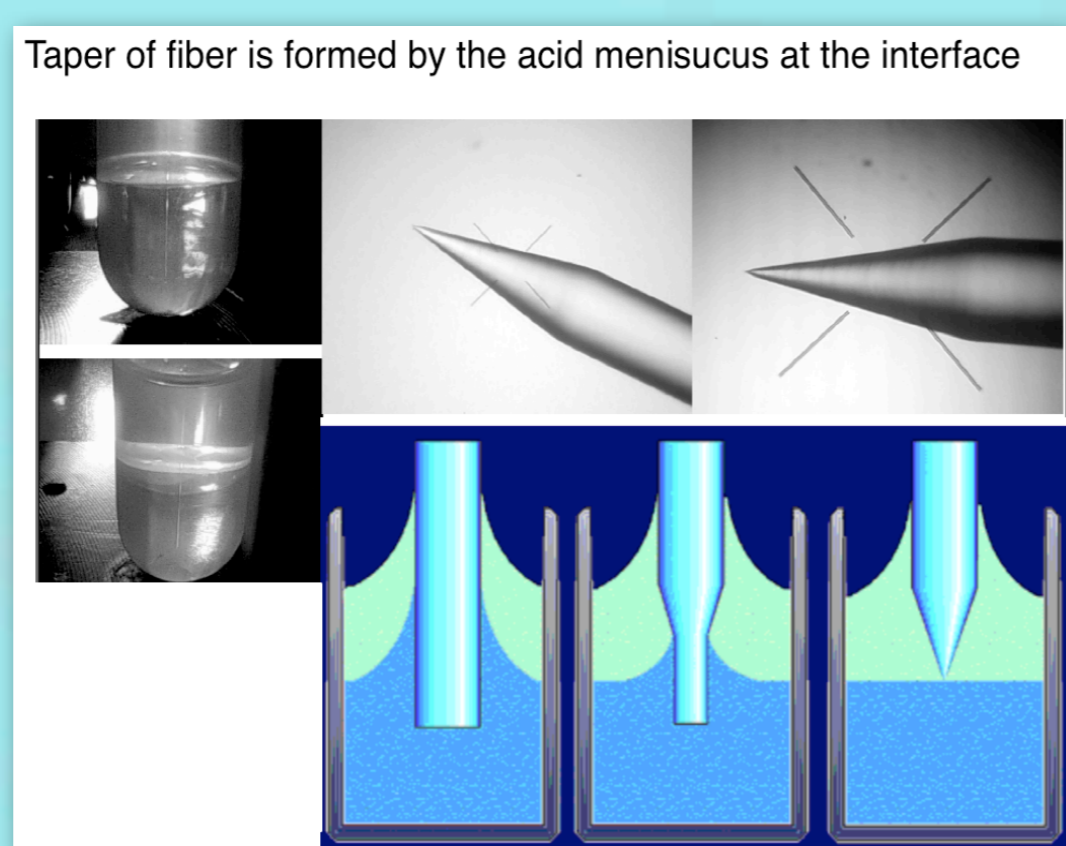
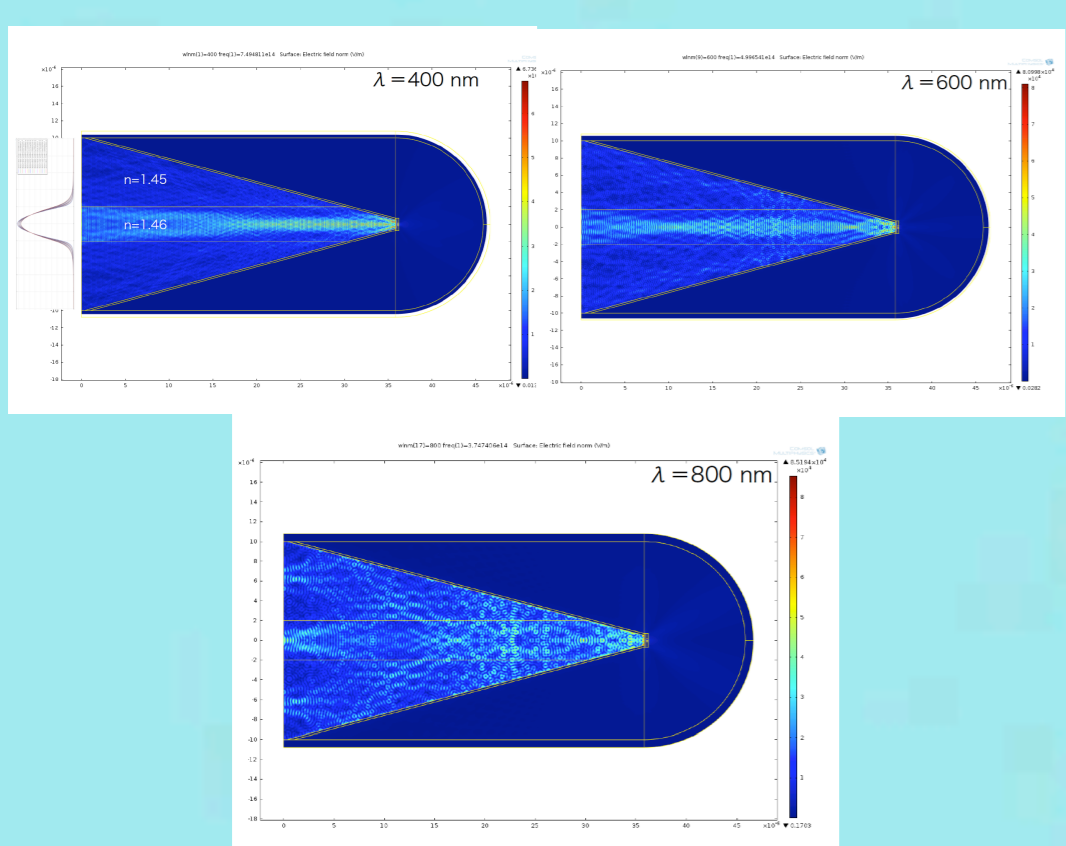
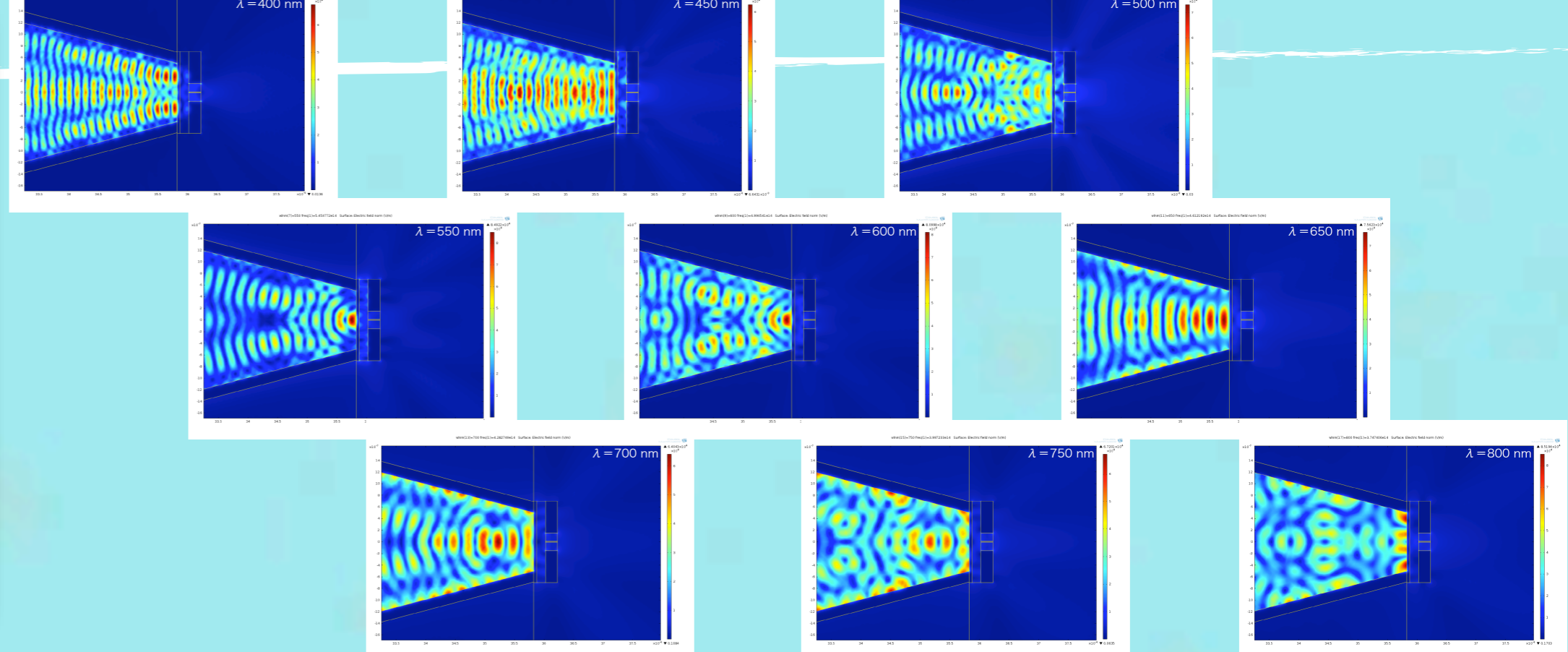
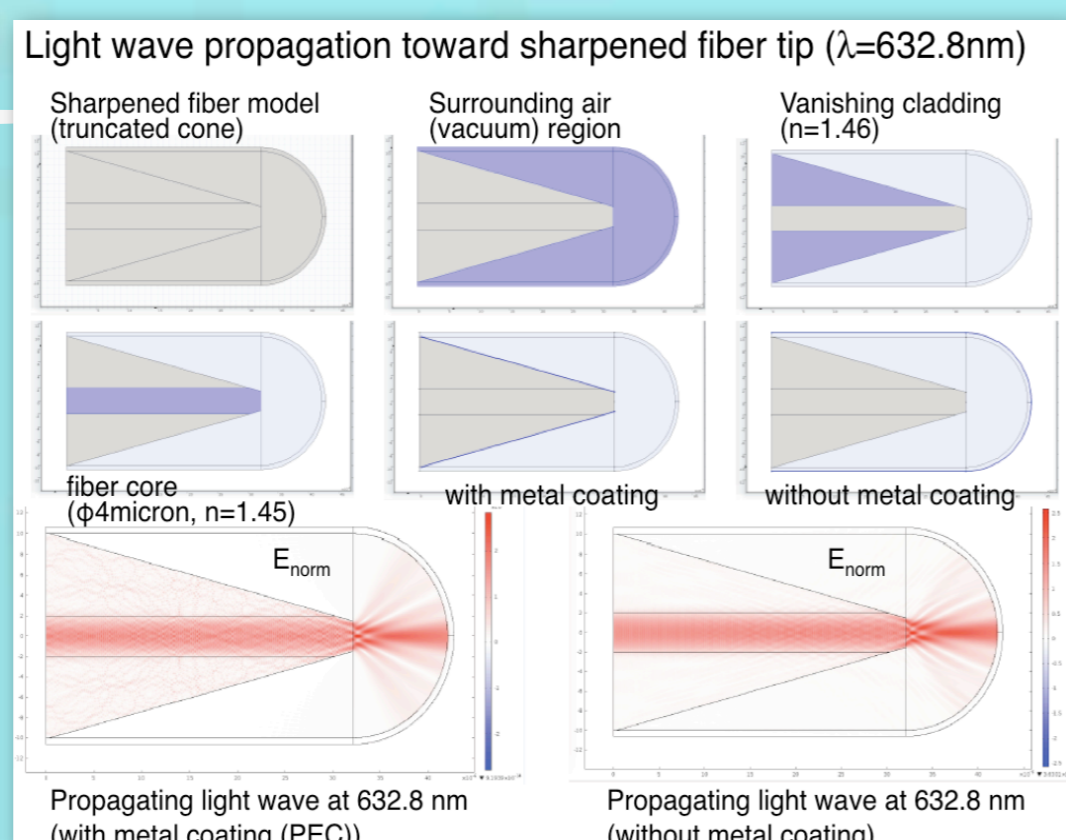
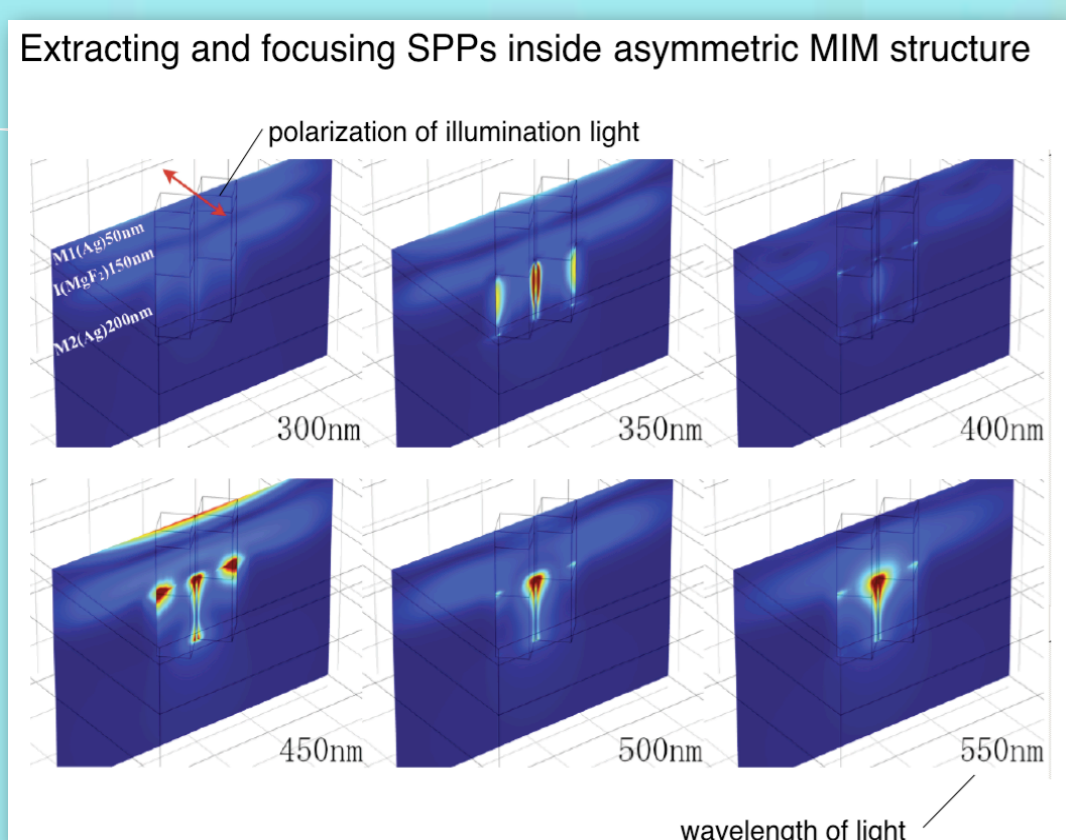
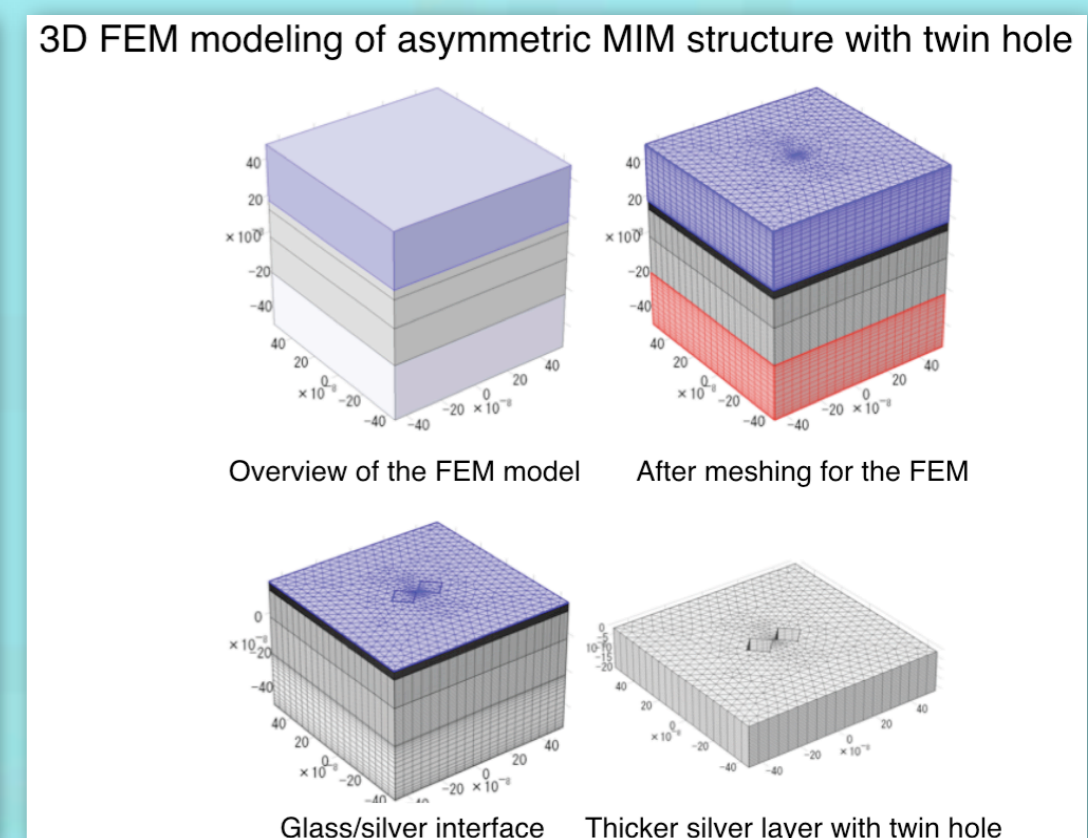
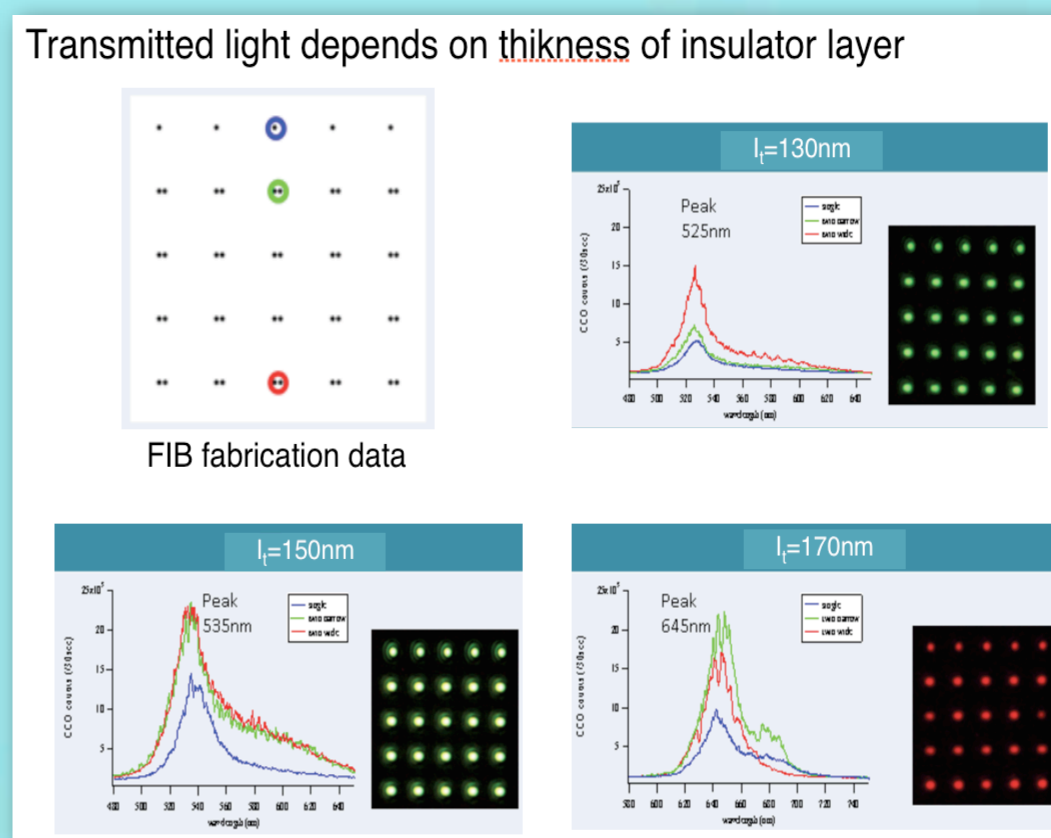
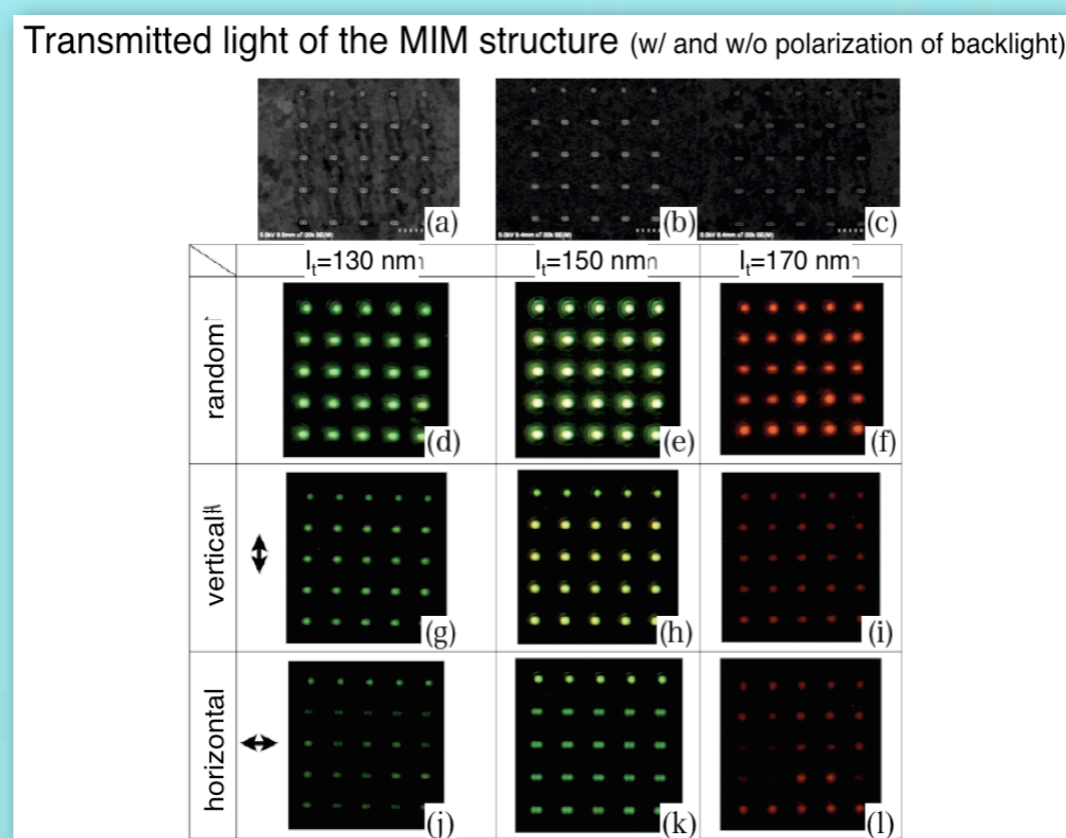
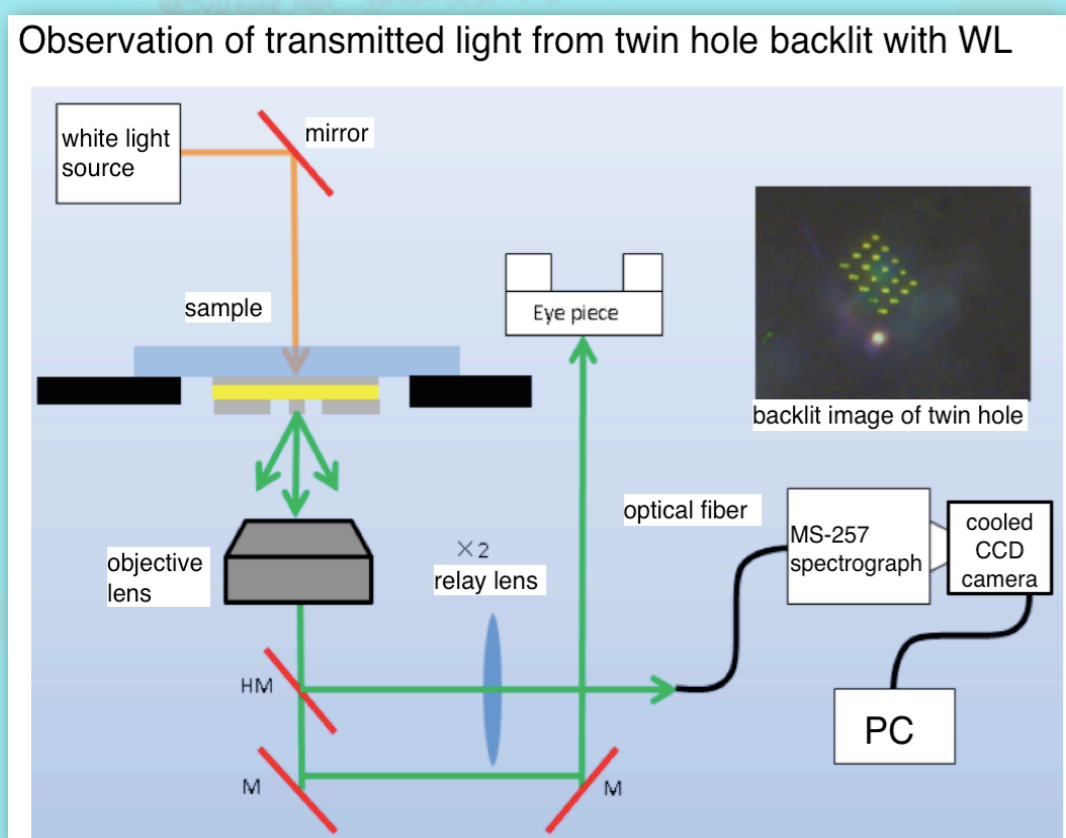
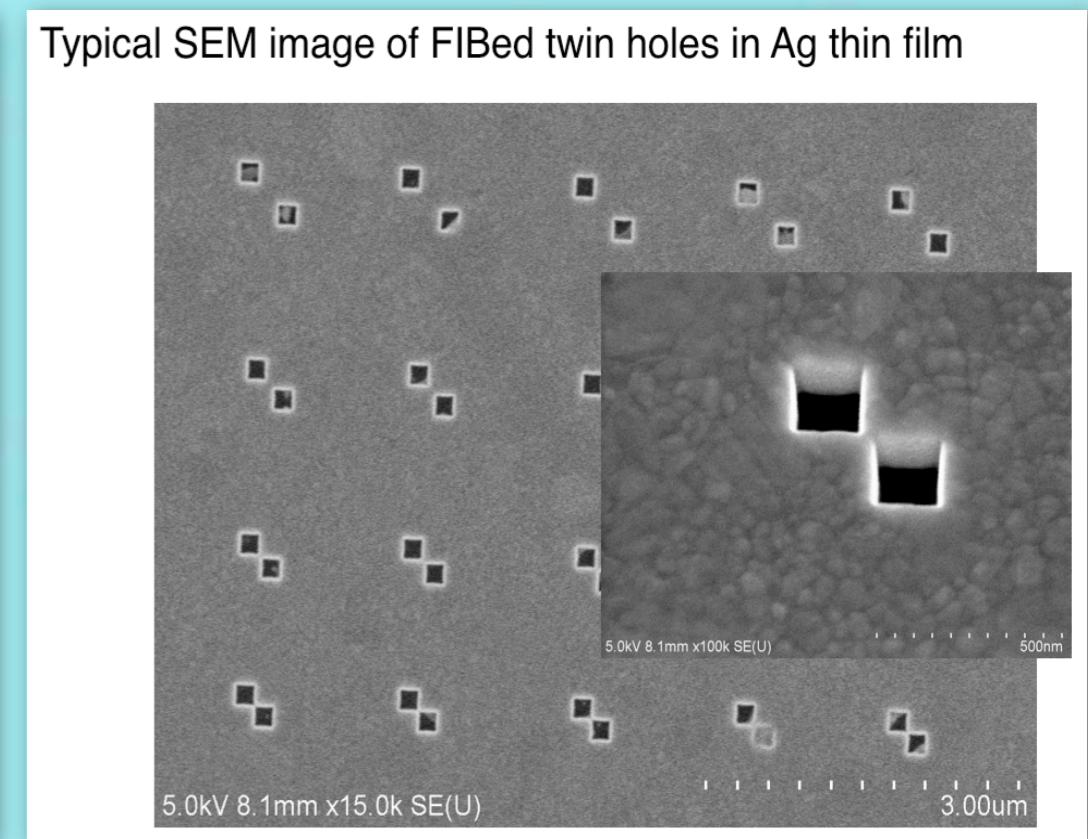
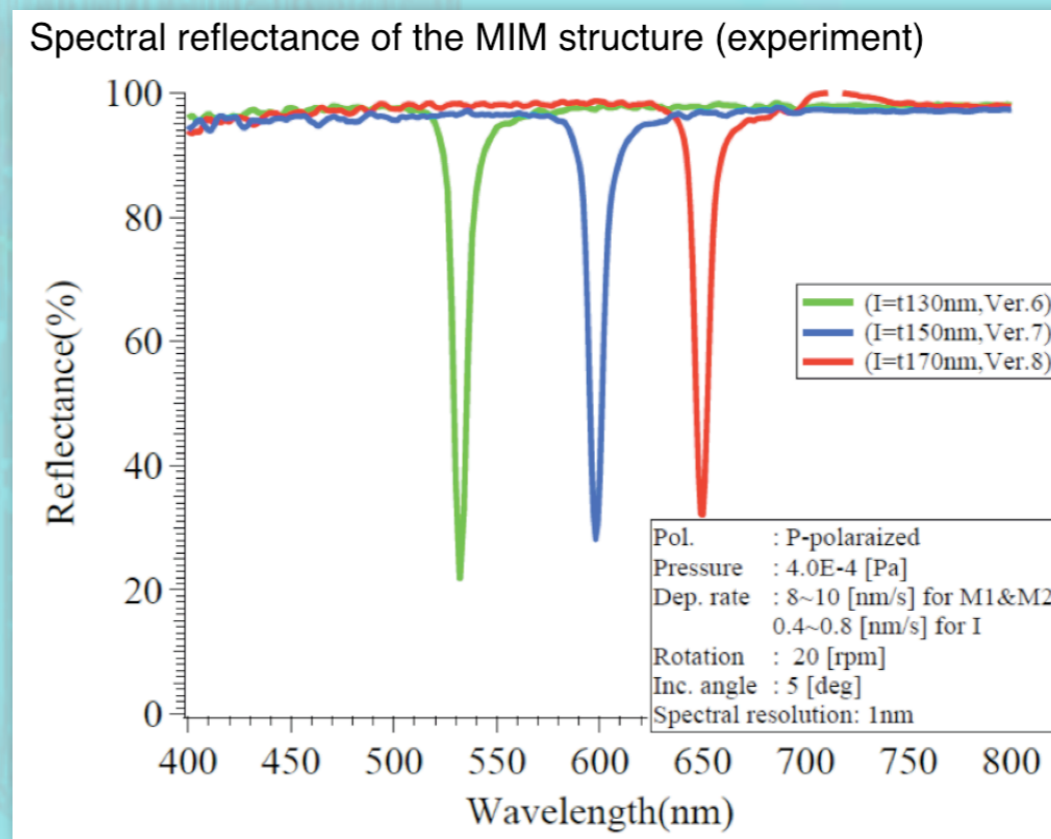
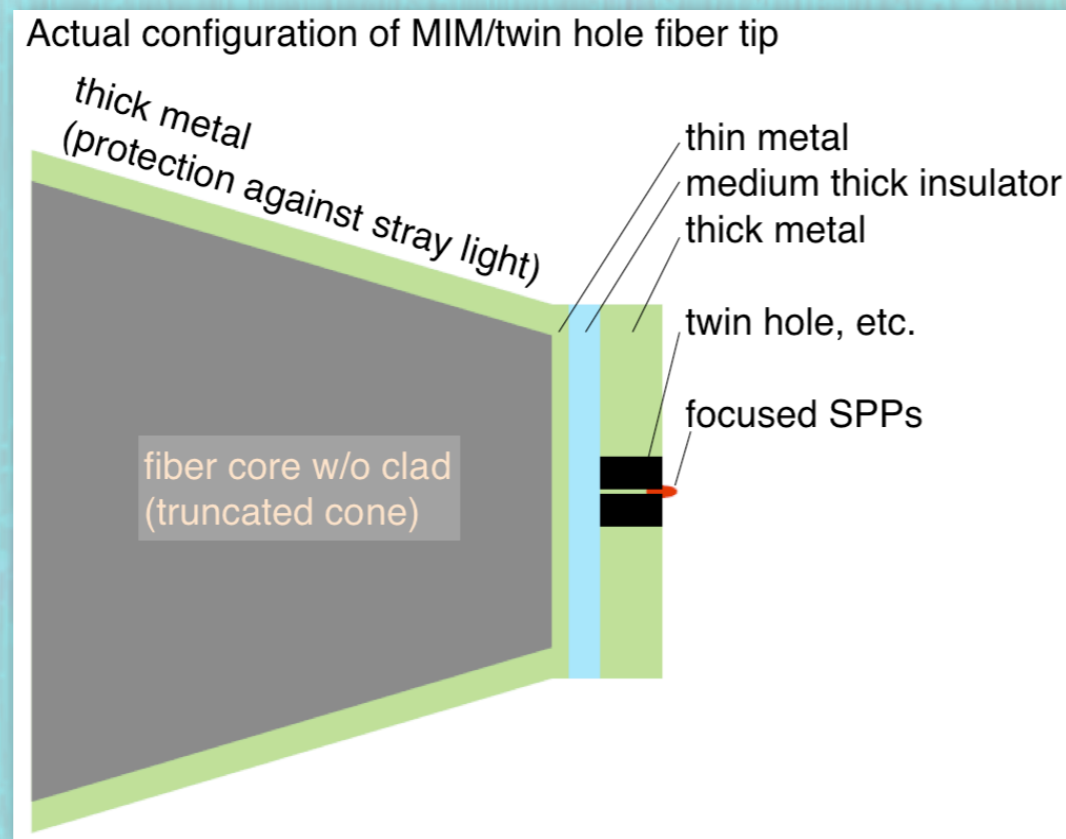
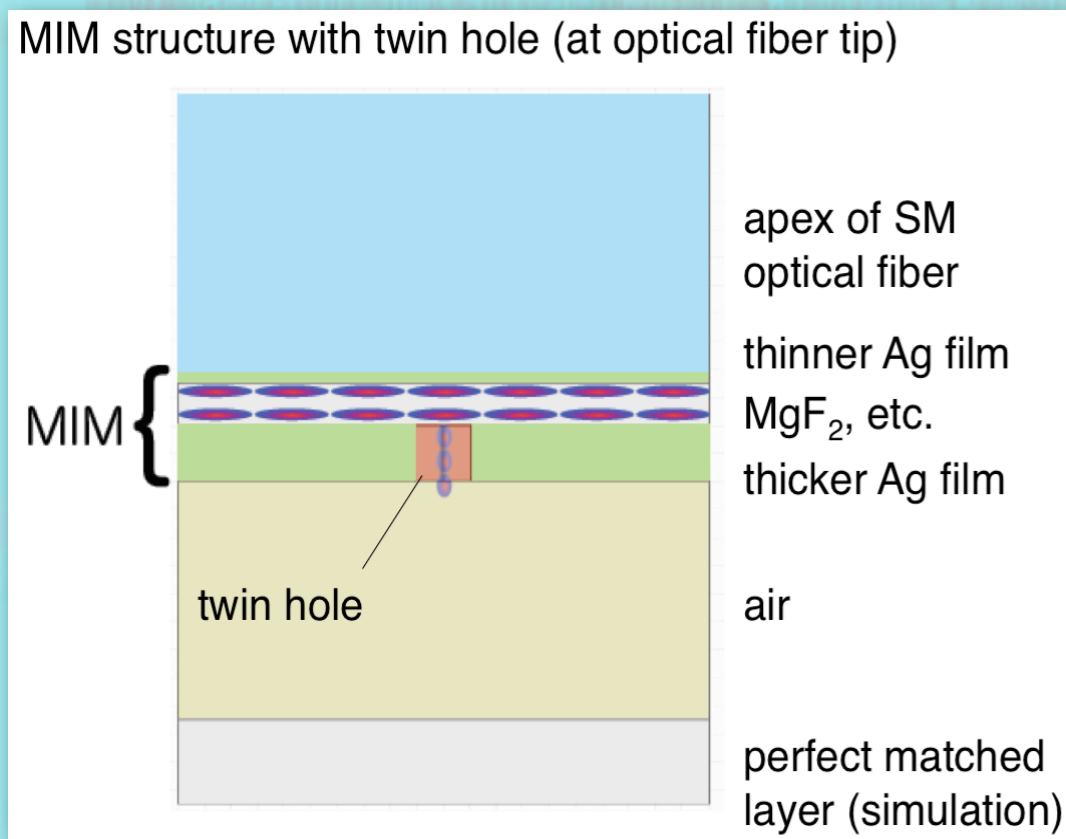
Interaction between light wave and asymmetric metal/insulator/metal (MIM) structure coupled with subwavelength holes at optical fiber apex

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CONCLUSIONS

This research is having an eye to extract, guide, and focus the SPPs through a thicker metal layer of a asymmetric MIM structure with FIBed subwavelength pass-through holes. The expected outcome is a creation of noble, monochromatic, and tunable fiber probe for scanning near-field optical microscopes (SNOMs) with intense white light sources. Basic experiment and FEM simulation have demonstrated the feasibility of a plasmonic MIM/twin hole head for a SM fiber probe head of SNOMs. In the next stage, prototypes of the SNOM probe head will be diagnosed by the introduction of laser light or white light into the fiber core.

ACKNOWLEDGMENTS

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