



Fig. 6. Relative brightness levels of the pixels on the NIR images with different polarization angle, insets are the scattering images for polarization angles of 0°, 30°, 60°, 90°.

4. Conclusion

In conclusion, we present a NIR imaging technique to investigate the dominant polarization state of the evanescent light from high order cladding modes as it relates to the polarization orientation of the input light incident on an in-fiber TFBG. Results show that TM light tunnels across continuous metal coatings and also scatters preferentially at coating discontinuities, as long as the direction of propagation is from the metal coated region to the metal-free region. Finally a quantitative relationship between average scattering intensity and input light linear polarization angle is presented, which allows for the determination of the light polarization inside the fiber core from a measurement carried out outside of the fiber.

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