

# Optical Properties of Sputtered Antimonene Films

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## ABSTRACT

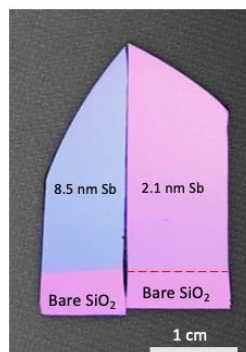
Antimonene is an emerging two-dimensional material, which consists of a layer of antimony atoms. Monolayer antimonene is predicted to be a semiconductor with high mobility, while the bilayers and thicker flakes will become metallic.[1,2] In the past reports, the antimonene nanoflakes were prepared by exfoliation, molecular beam epitaxy, and vapor deposition, and demonstrated applications in rechargeable batteries, miRNA detections and Q-switching Pr:YLF lasers, etc.[3-6] In this report, we developed antimonene nanofilms with deposition by ultra-low power magnetron sputtering. We successfully tuned the crystalline quality of the antimonene films from amorphous to polycrystalline and explored their optical properties with ellipsometer.

## REFERENCES

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## FIGURES



**Figure 1:** Optical image of as-deposited antimonene (Sb) nanofilms with different thickness.