

MICROHARDNESS EVOLUTION OF LASER-CLADDED COMPOSITE FeNiCr-B₄C COATINGS REINFORCED WITH 5 AND 7 wt.% B₄C



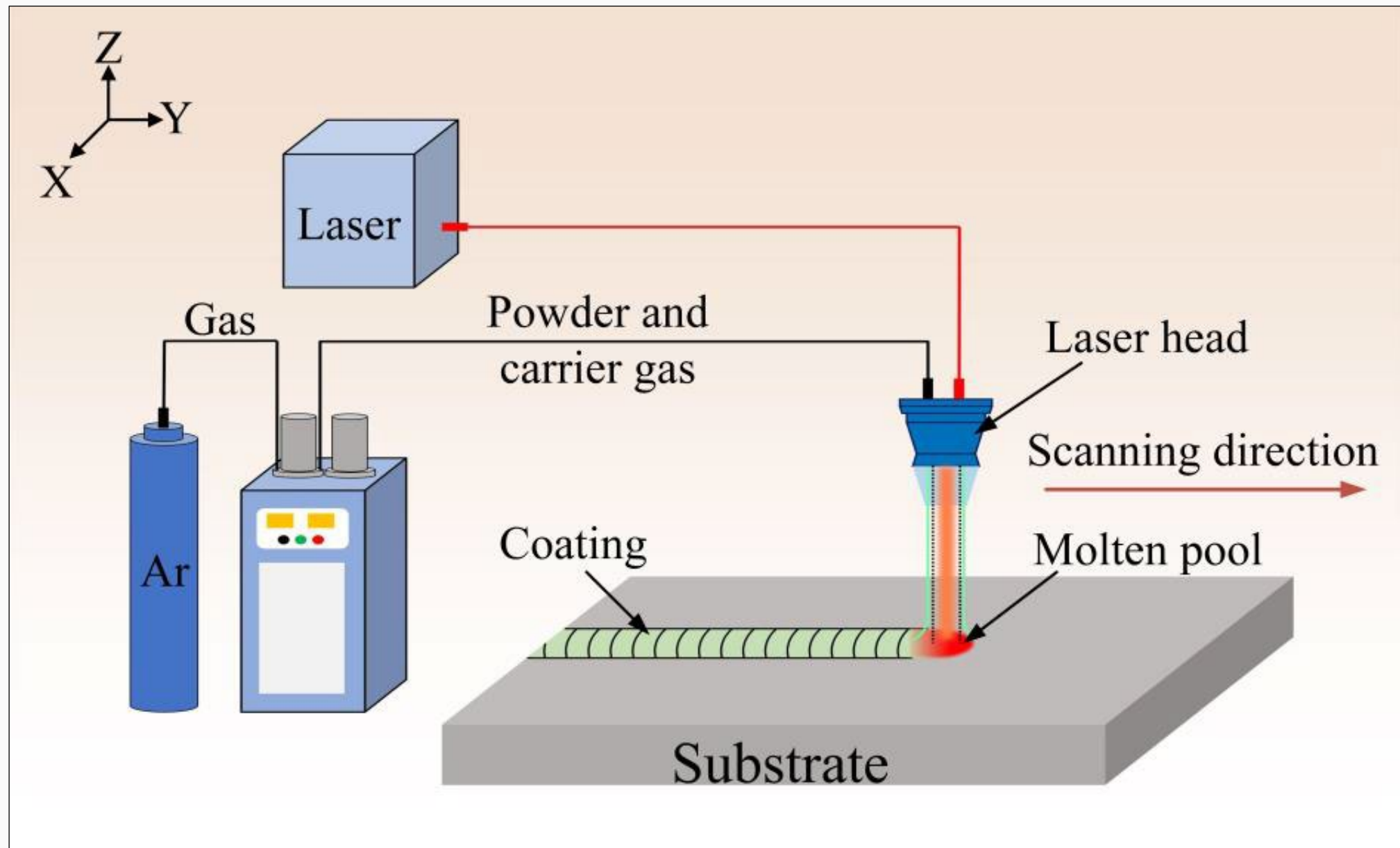
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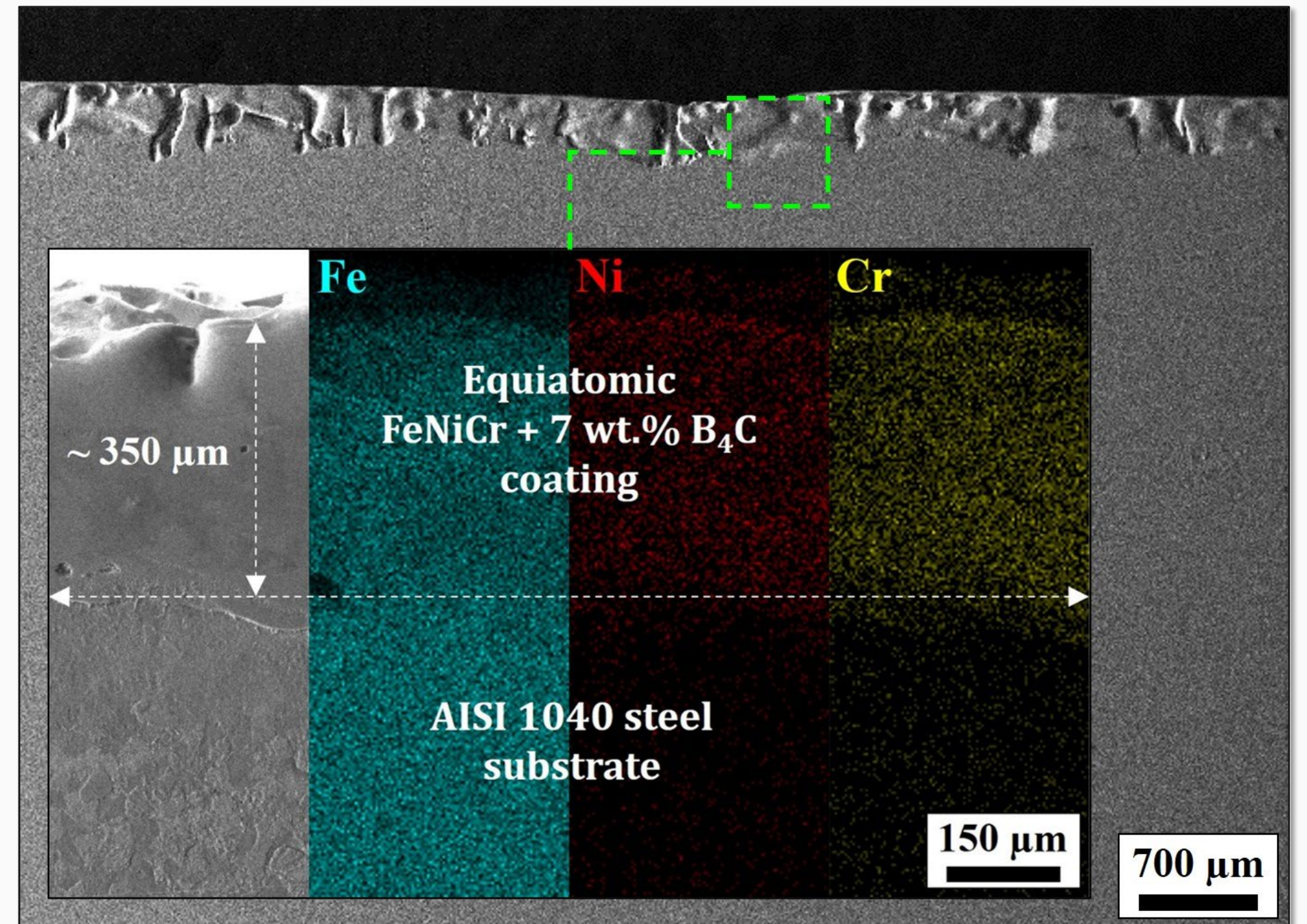
SCHEMATIC ILLUSTRATION OF LASER CLADDING METHOD

Laser cladding is an additive manufacturing process (variety of SLM technology) to form coatings on various types of metal surfaces.



THE STUDY GOAL: To evaluate impact of B₄C reinforcement on microhardness evolution of laser-cladded composite FeNiCr-B₄C coatings.

ELEMENT-MAPPED CROSS-SECTION AREA OF THE FeNiCr + 7 wt.% B₄C SAMPLE

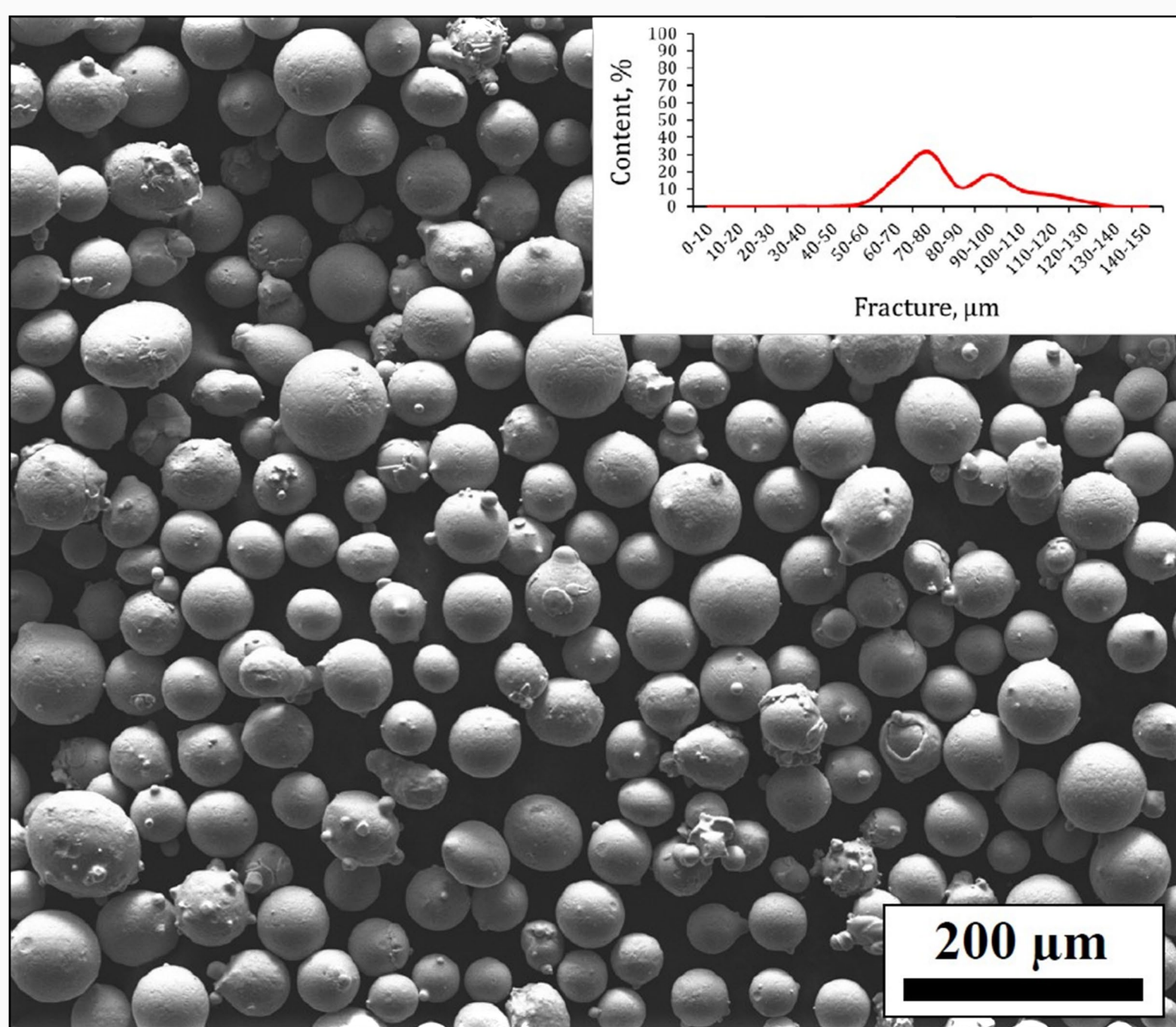


MATERIALS

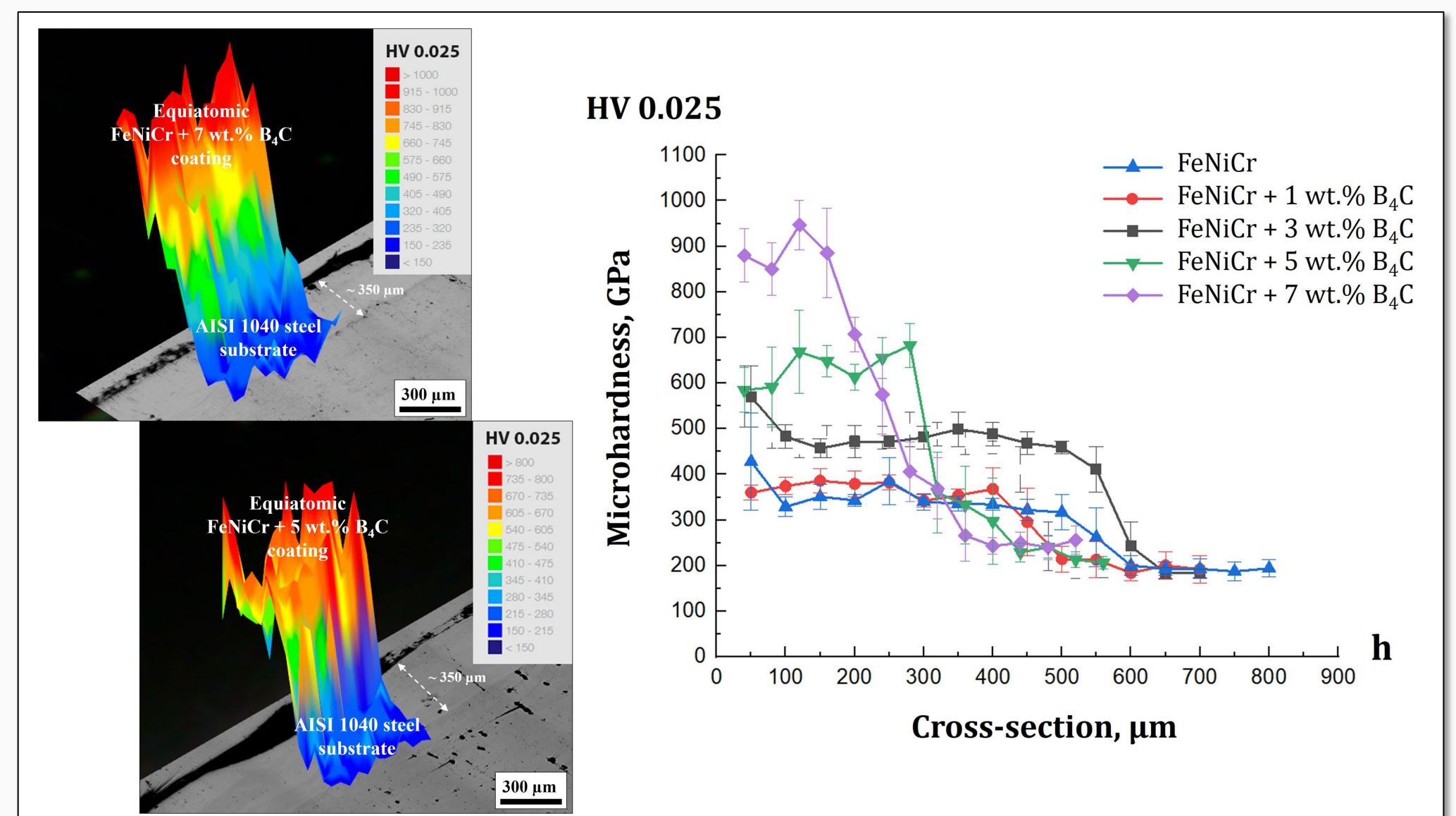
LASER CLADDING

MECHANICAL CHARACTERIZATION

CUSTOM SPHERICAL EQUIATOMIC FeNiCr POWDER AS BASE COATING MATERIAL



MICROHARDNESS EVOLUTION OF LASER-CLADDED COMPOSITE FeNiCr-B₄C COATINGS



CONCLUSION

□ Laser cladding combined with B₄C reinforcement can be considered as a promising method for synthesis strength composite FeNiCr-B₄C coatings.