

# Coating of Diamonds for Detector Application

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We report on the development of processes in pretreatment, coating, and tempering of structured layers on diamond surfaces for detector application. The different steps are developed and processed in close collaboration with the GSI detector laboratory and with feedback of the experiment.

Beginning with thermal evaporation and electron beam evaporation we currently use magnetron sputtering as standard coating technique for diamonds in a machine specially equipped for this purpose. The layers of choice are mostly chromium-gold or titanium-platinum-gold, sometimes also single layers of aluminum, copper or palladium.

The diamonds are mostly cleaned before the coating and different tempering procedures after coating and/or after lithography are described.

We give an example of application of the coated diamonds in a detector for the HADES-experiment.