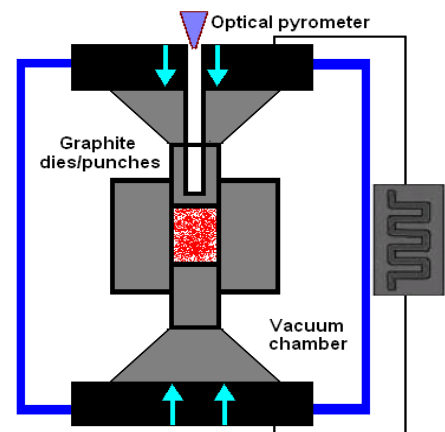


## Spark Plasma Sintering Sputtering Targets

A new ceramic processing technique, Spark Plasma Sintering (SPS), has been set up in the UK at Nanoforce Technology Limited. The technique involves the rapid heating of conductive dies by pulsed DC electric currents. The SPS furnace at QMUL can achieve heating rates of up to 600 K/min. For example, it is possible to heat up and sinter to high dense many ceramics within ten minutes. This rapid heating rate combined with high pressure (up to 1 GPa) opens up the possibility of producing new materials with microstructures and properties that can not be achieved using conventional sintering techniques.



1 meter

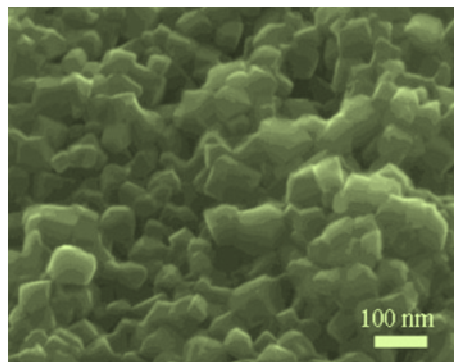


Spark Plasma Sintering (SPS) system

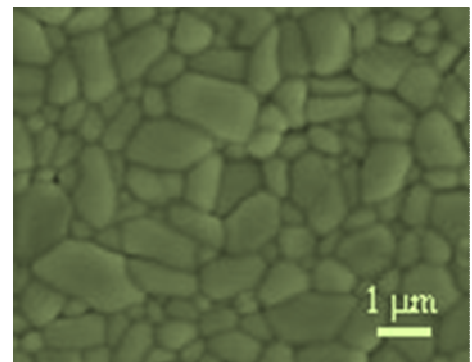
SPS has advantages in the preparation of a wide range of sputtering targets for thin film applications, especially those based on borides, carbides and nitrides. The SPS can produce targets of higher density and phase purity than conventional processing. Nanoforce can produce high volume targets for industrial applications and small volume specialist targets for academic research.



Sputtering target



Nanoceramic



Micro ceramic

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