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An optical system to study temperature influenced chemical and mechanical changes to the PCD structure

In this investigation a polycrystalline diamond (PCD) body produced under High Pressure High Temperature (HTHP) conditions was heated using a CO₂ laser. The resultant surface temperature profile was measured optically by using the grey body emission from the PCD. This temperature measurement system allows one to study temperature influenced chemical and mechanical changes to the PCD structure.

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