Title:	Multiband superconductivity in Mo8Ga41 driven by a site-selective mechanism
Authors:	Das, Shekhar (/jspui/browse?type=author&value=Das%2C+Shekhar) Sheet, G. (/jspui/browse?type=author&value=Sheet%2C+G.)
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Abstract:	The family of the endohedral gallide cluster compounds recently emerged as a new family of superconductors which is expected to host systems displaying unconventional physics. Mo8Ga41 is an important member of this family which shows relatively large Tc∼10 K and has shown indications of strong electron-phonon coupling and multiband superconductivity. Here, through direct measurement of superconducting energy gap by scanning tunneling spectroscopy (STS), we demonstrate the existence of two distinct superconducting gaps of magnitude 0.85 and 1.6 meV, respectively, in Mo8Ga41. Both gaps are seen to be conventional in nature as they evolve systematically with temperature as per the predictions of BCS theory. Our band structure calculations reveal that only two specific Mo sites in a unit cell contribute to superconductivity where only dxz/dyz and dx2−y2 orbitals have strong contributions. Our analysis indicates that the site-elective contribution governs the two-gap nature of superconductivity in Mo8Ga41.
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