

Symposium Magic MAX Phases: Self-healing, Magnetism and the Next Best Graphene (SYMM)

jointly organized by
 the Magnetism Division (MA),
 the Thin Films Division (DS),
 the Semiconductor Physics Division (HL),
 the Metal and Material Physics Division (MM), and
 the Low Temperature Physics Division (TT)

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MAX-phases are ternary composites consisting of the early transition elements (M), a group IIIA or IVA element (A) and carbon or nitrogen (X). Exceptional mechanical, chemical and electrical properties like high ductility, high-temperature oxydation resistance, self-healing capacity, superconductivity, and recently also magnetism have been reported. The different compositions naturally form laminar (i.e. atomic multilayer) structures. These layers can be delaminated to form environmentally stable quasi 2D atomic layers of C or N, the so called MAXenes. The symposium will highlight the recent advances as indicated in the title.

Overview of Invited Talks and Sessions

(Lecture room: H 0105)

Invited Talks

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| SYMM 1.1 | Thu | 9:30–10:15 | H 0105 | From MAX to MXene - From 3D to 2D — ●MICHEL BARSOUM |
| SYMM 1.2 | Thu | 10:15–10:45 | H 0105 | Structure evolution during low temperature growth of nanolaminate thin films — ●J.M. SCHNEIDER, L. SHANG, H. BOLVARDI, Y. JIANG, A. AL GABAN, D. MUSIC, M. TO BABEN |
| SYMM 1.3 | Thu | 11:00–11:30 | H 0105 | Autonomous healing of crack damage in MAX phase ceramics — ●WILLEM G. SLOOF |
| SYMM 1.4 | Thu | 11:30–12:00 | H 0105 | Magnetic MAX phases from first principles and thin film synthesis — ●JOHANNA ROSEN |
| SYMM 1.5 | Thu | 12:00–12:30 | H 0105 | Weak Field Magneto-Transport Properties of Mn+1AX_n Phases — ●THIERRY OUISSE, LU SHI, BENOIT HACKENS, BENJAMIN PIOT, DIDIER CHAUSSENDE |

Sessions

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| SYMM 1.1–1.5 | Thu | 9:30–12:30 | H 0105 | Magic MAX Phases: Self-healing, Magnetism and the next best Graphene |
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