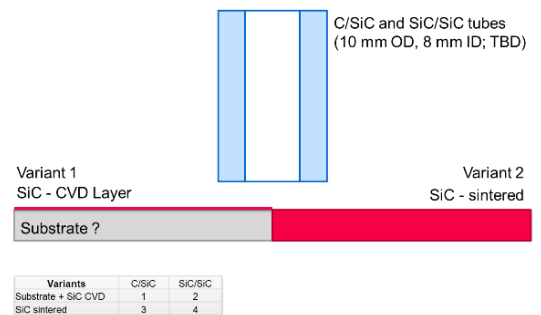


# Announcement Master/Bachelor Thesis, 05.03.2019

## Characterisation of dissimilar SiC friction welded joints

### Motivation

- Friction welding of SiC-based ceramics is an interesting, but unexplored way of joining
- A wide range of applications might benefit from a successful outcome of this work: aerospace, energy production, etc.



### Content

- Literature (incl. patent) study
- Friction welding of materials
- SiC (CVD or sintered, size TBD, laboratory scale, mm);
- C/SiC and SiC/SiC tubes (10 mm OD, 8 mm ID; TBD)
- joining materials: Zr, Ti, ...
- mechanical test: tensile, torsional shear at RT and HT
- metallographic characterization
- documentation

Nr.	description	Polito	IMAT
1	literature/patent search		x
2	test material	x	
3	feasibility study of FW of bulk SiC joined by Zr or Ti.		x
4	RT mechanical tests and characterization	x	
5	HT mechanical tests and characterization	x	

For BT only IMAT parts are considered; for MT also parts at Polito are part of thesis.

### Organisation

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**Duration:** 3 (BT) / 6 (MT) months

**Start:** immediately

**Location:** IMAT - Joining group, Steyrergasse 17, 8010 Graz and Politecnico di Torino (POLITO)

### Further informationen

For further information please contact the secretariat of the institute or the supervisor.

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