

Dipartimento di Scienze della Terra - Università di Parma

16 Aprile 2008

La tecnica SEM-EBSD ed alcune sue applicazioni nello studio dei materiali geologici: dalla petrografia all'archeometria



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CNR - Istituto di Geoscienze e Georisorse - Sez. Padova

APPLICAZIONI - alcuni esempi

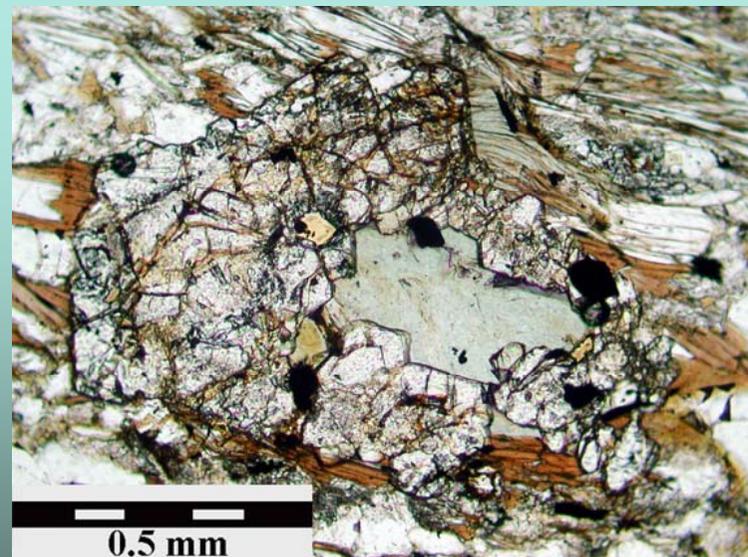
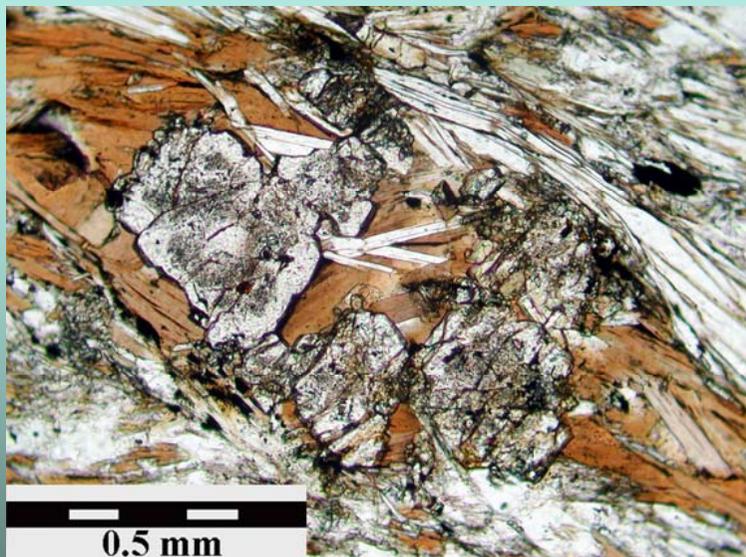
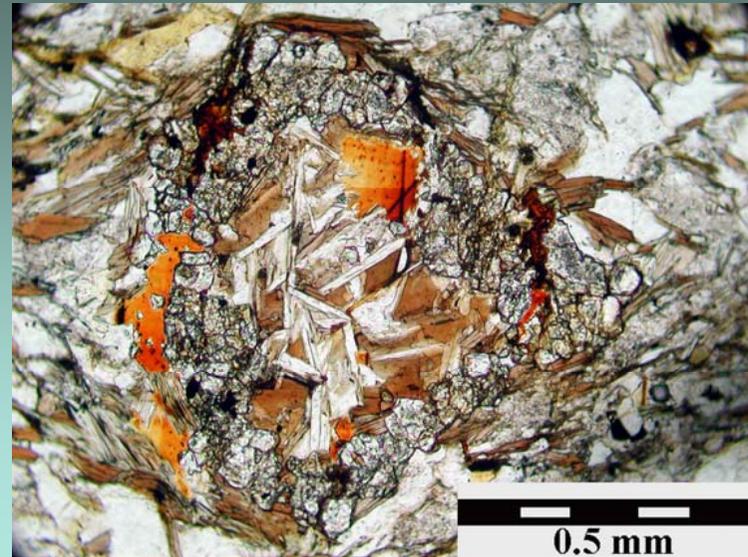
- microstrutture in rocce e minerali: granati
- microstrutture in metalli: bronzi
- riconoscimento di fase: pigmenti

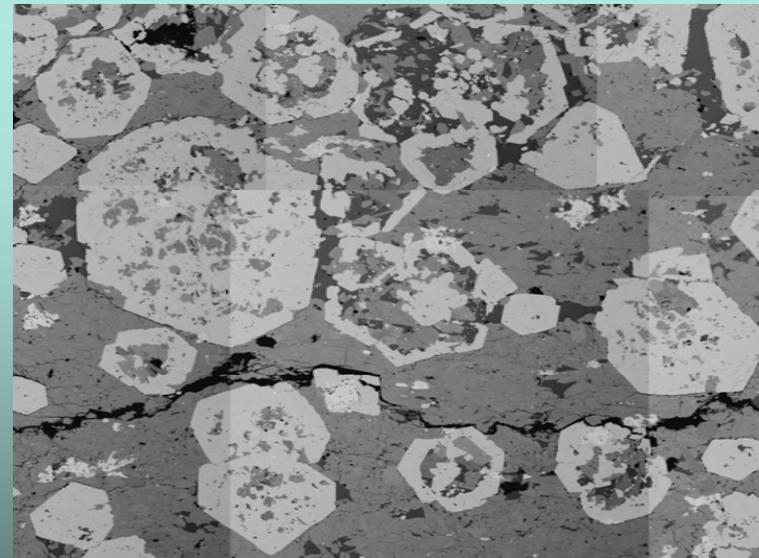
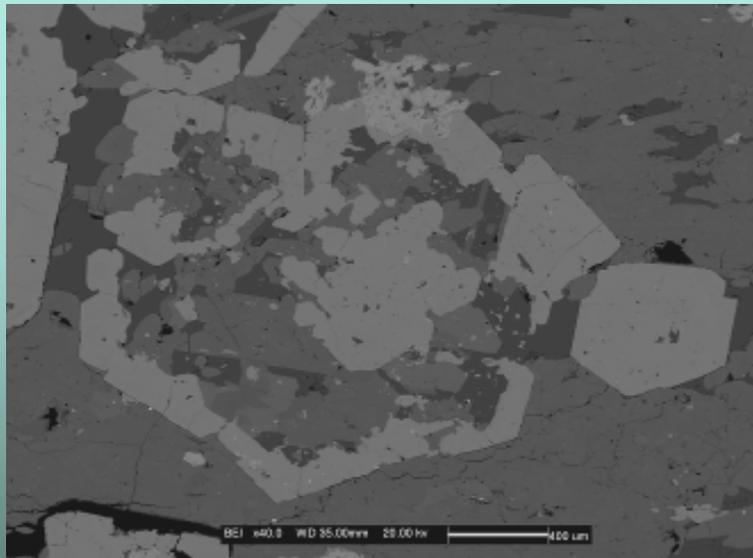
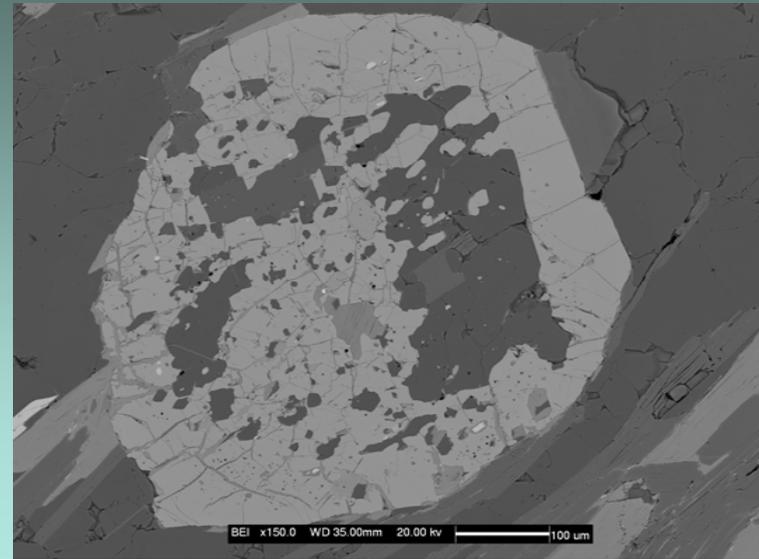
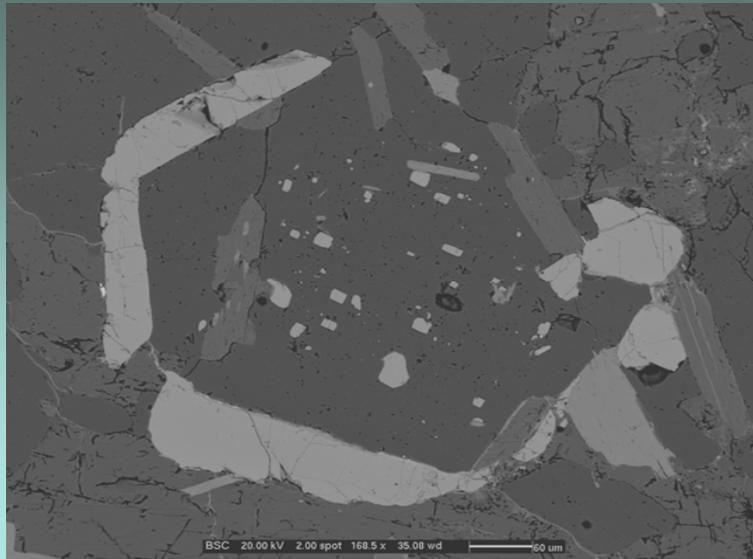
granato

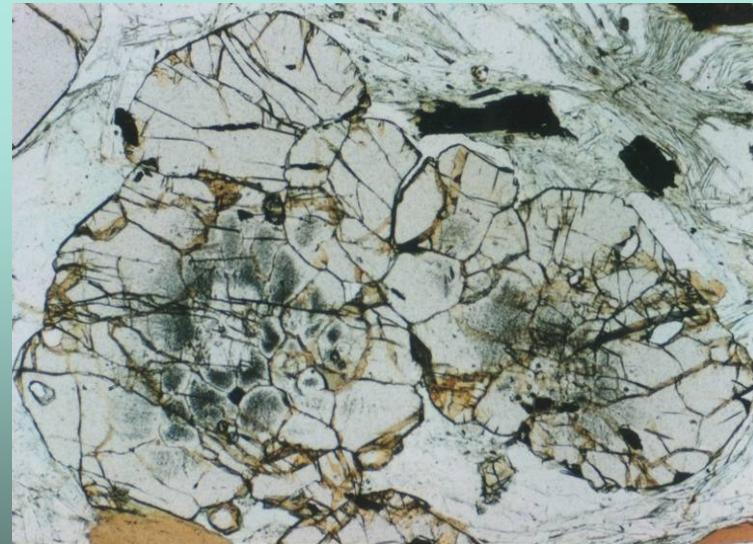
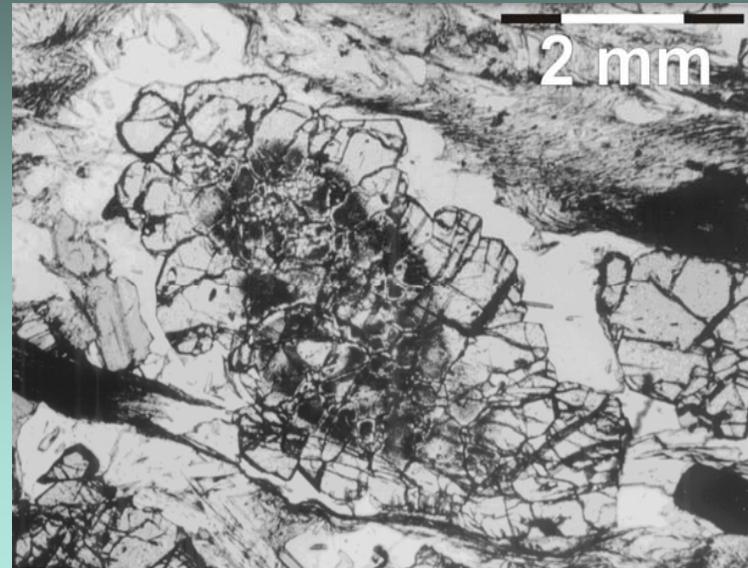
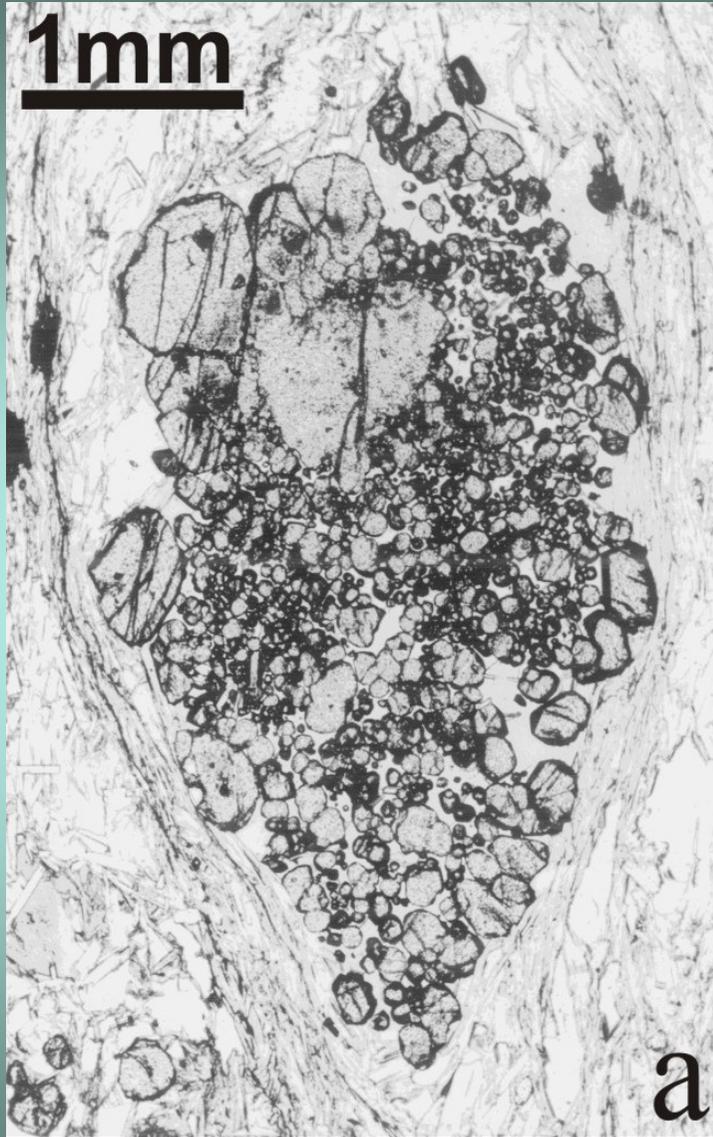


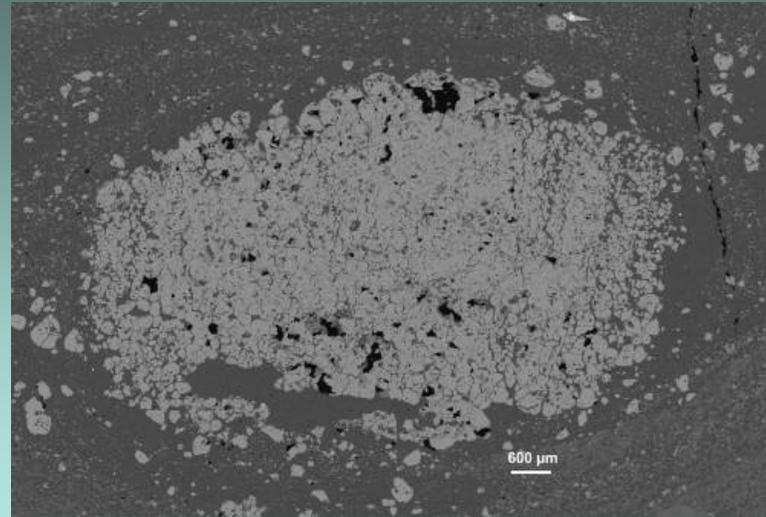
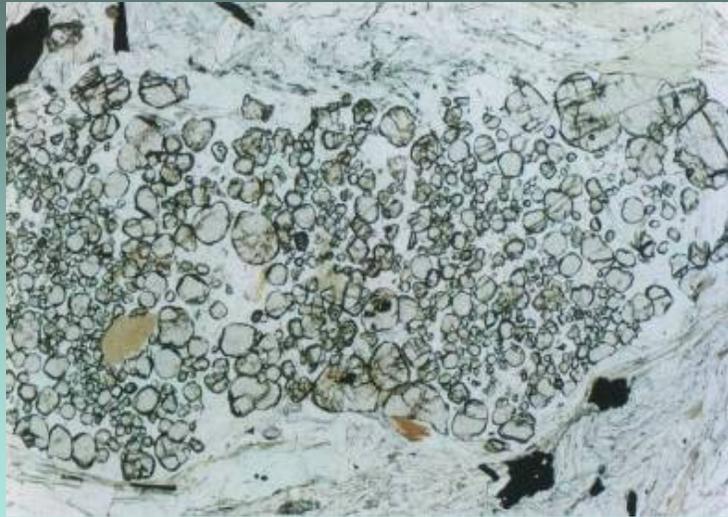
granato









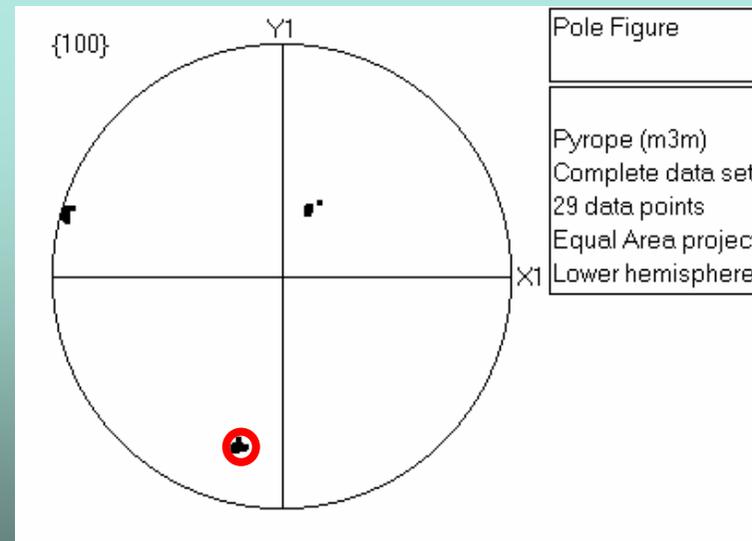
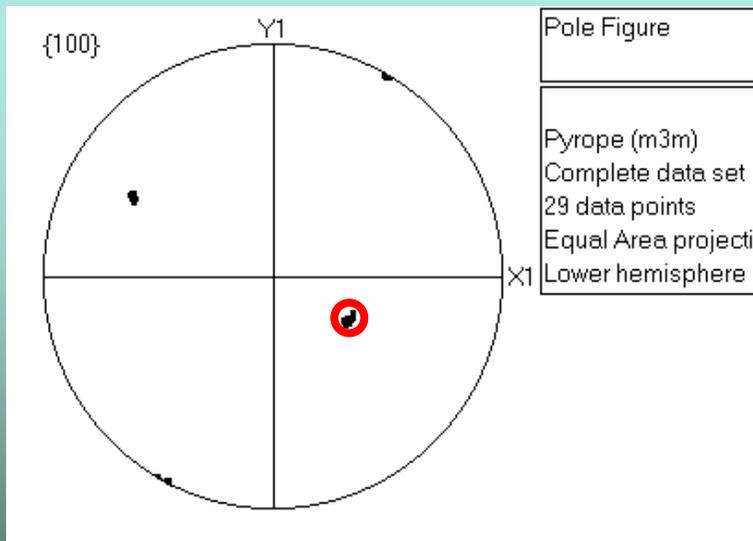
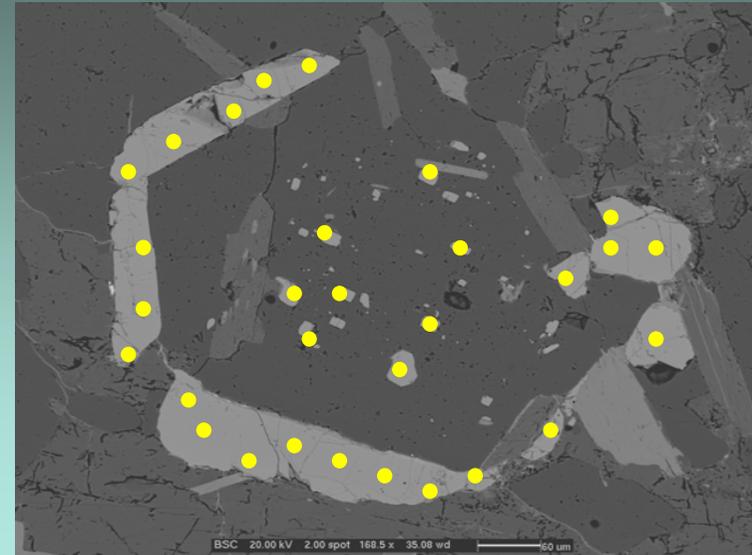
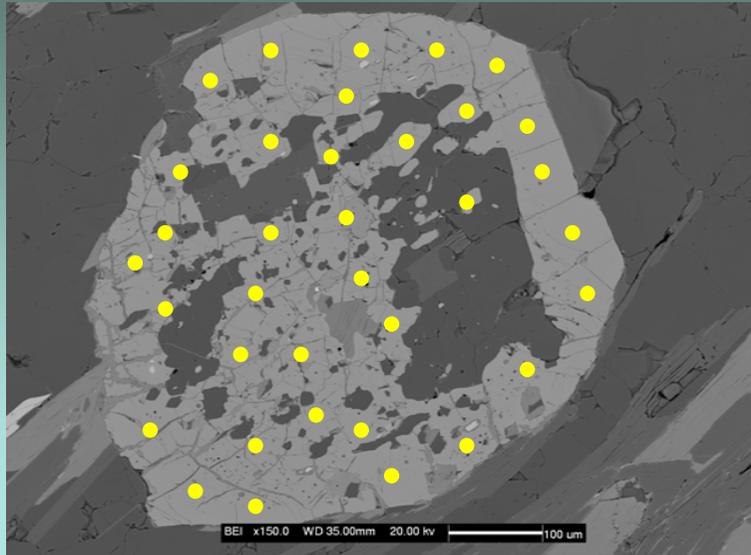


Granati “complessi”

(ad atollo, poligranulari, deformati, ecc.)

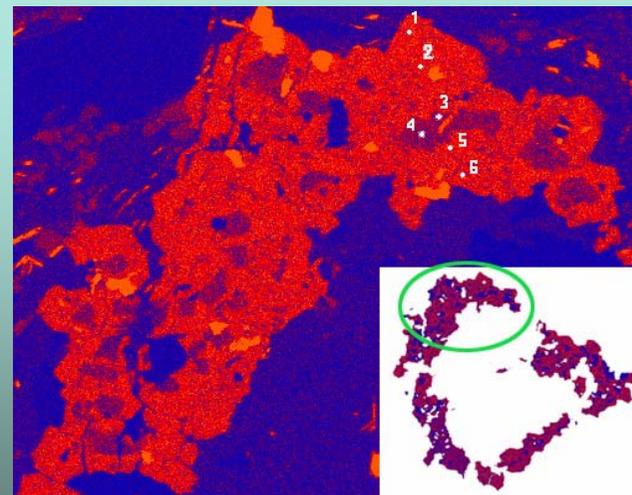
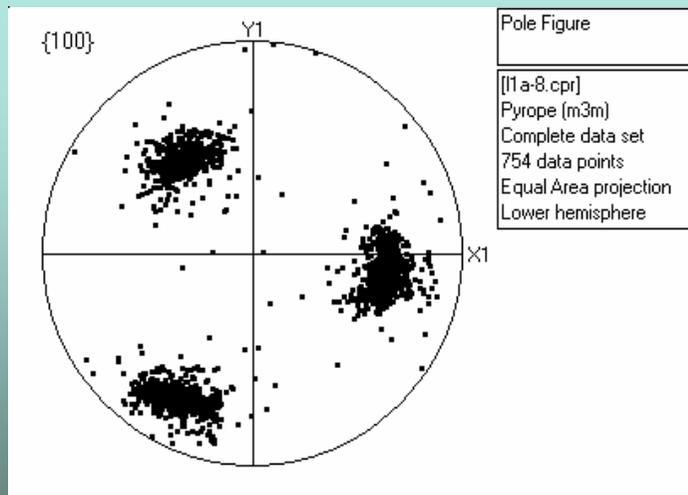
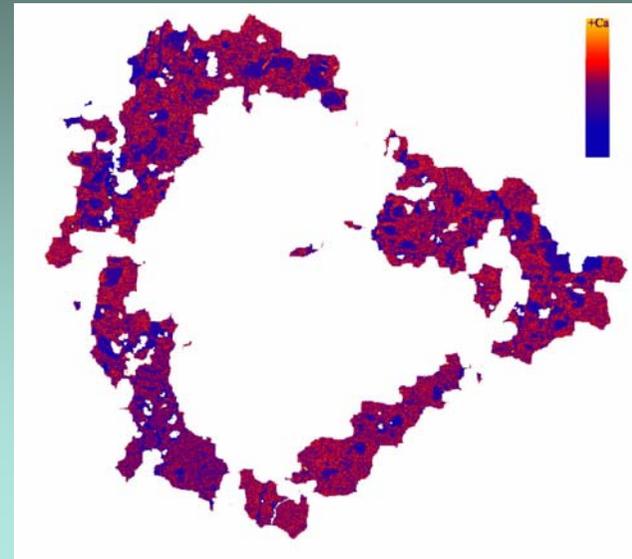
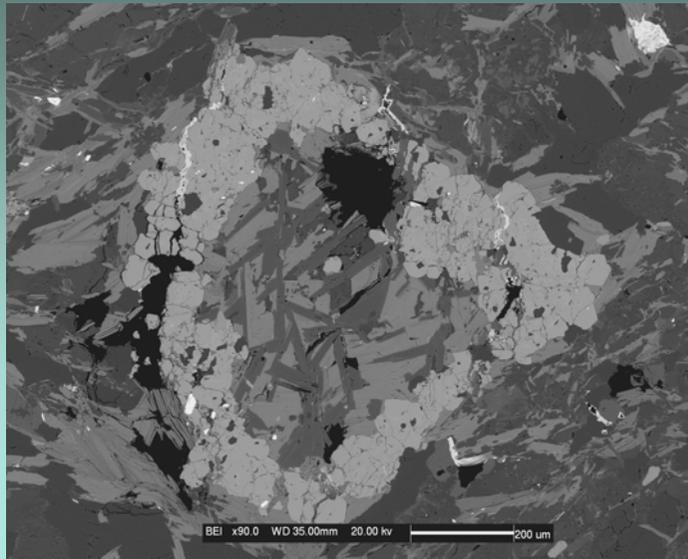
L'analisi dell'orientazione cristallografica può permettere di discriminare tra i differenti meccanismi che li hanno prodotti ed aiutare a comprendere il contesto geologico in cui si sono formati

granato ad atollo (micascisti del basamento austroalpino - Val Casies)



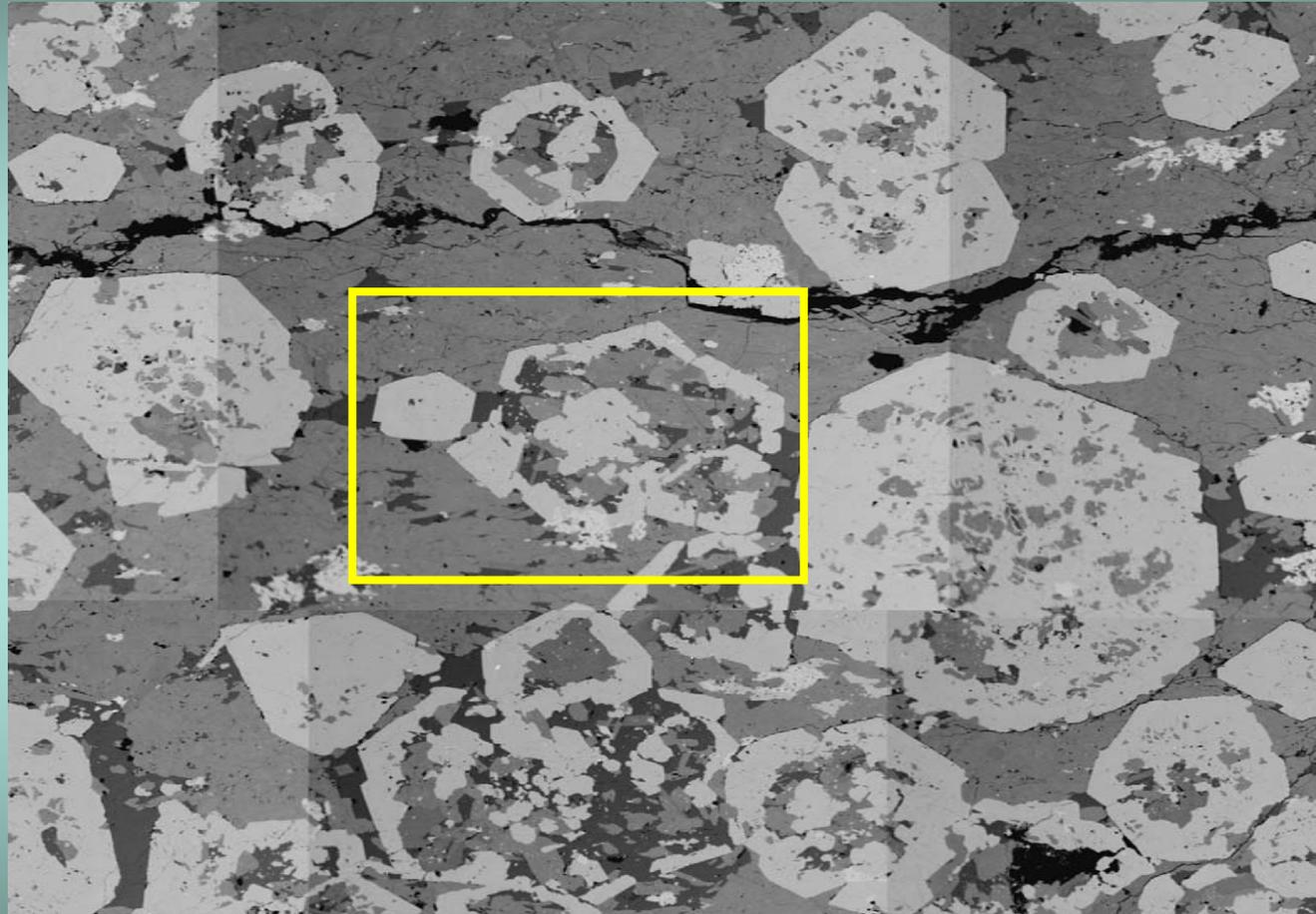
Origine per sostituzione del nucleo (Smellie, 1974)

granato ad atollo (micascisti del basamento austroalpino - Val di Lasa)

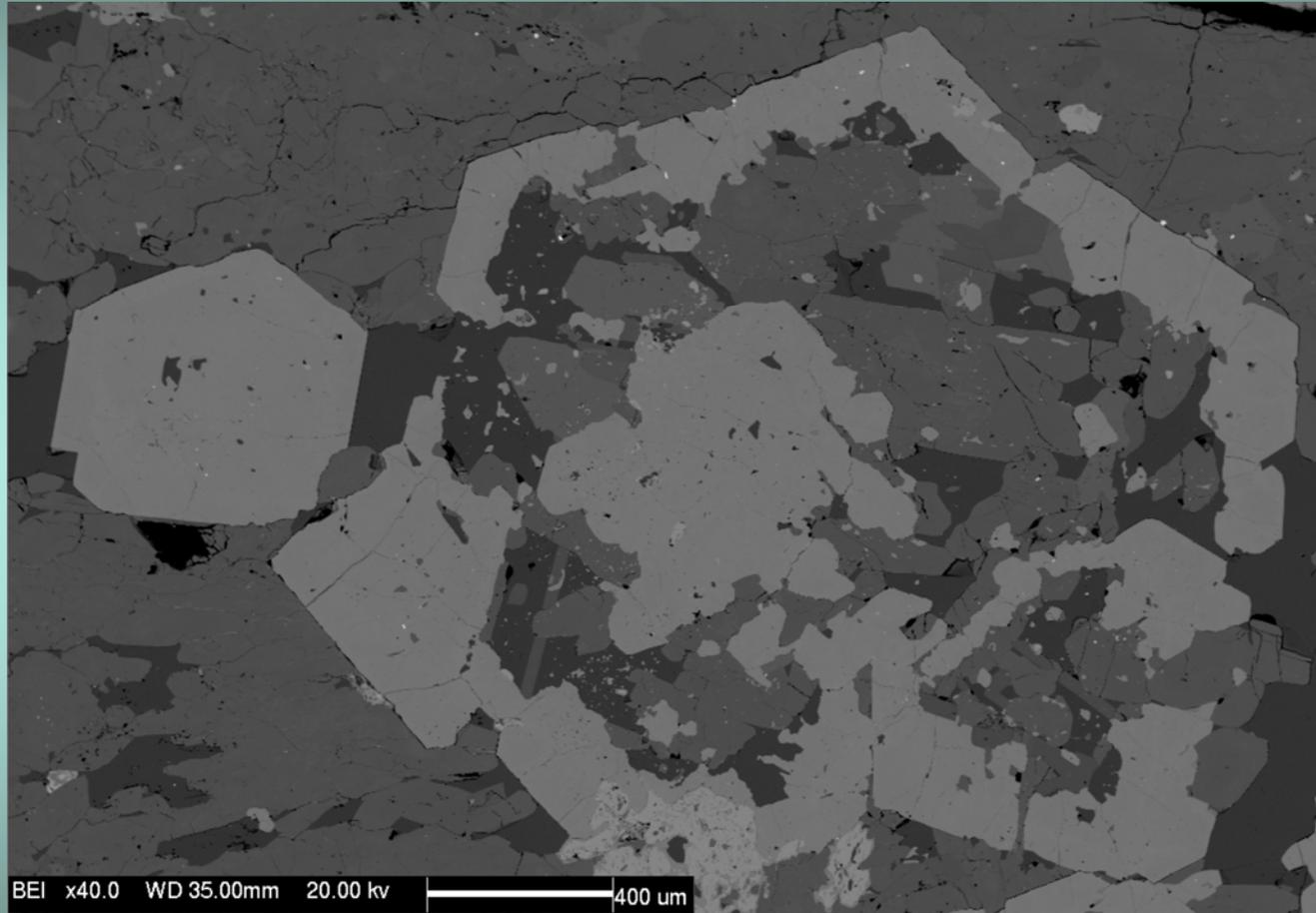


Genesi complessa (nucleazione multipla e coalescenza?)

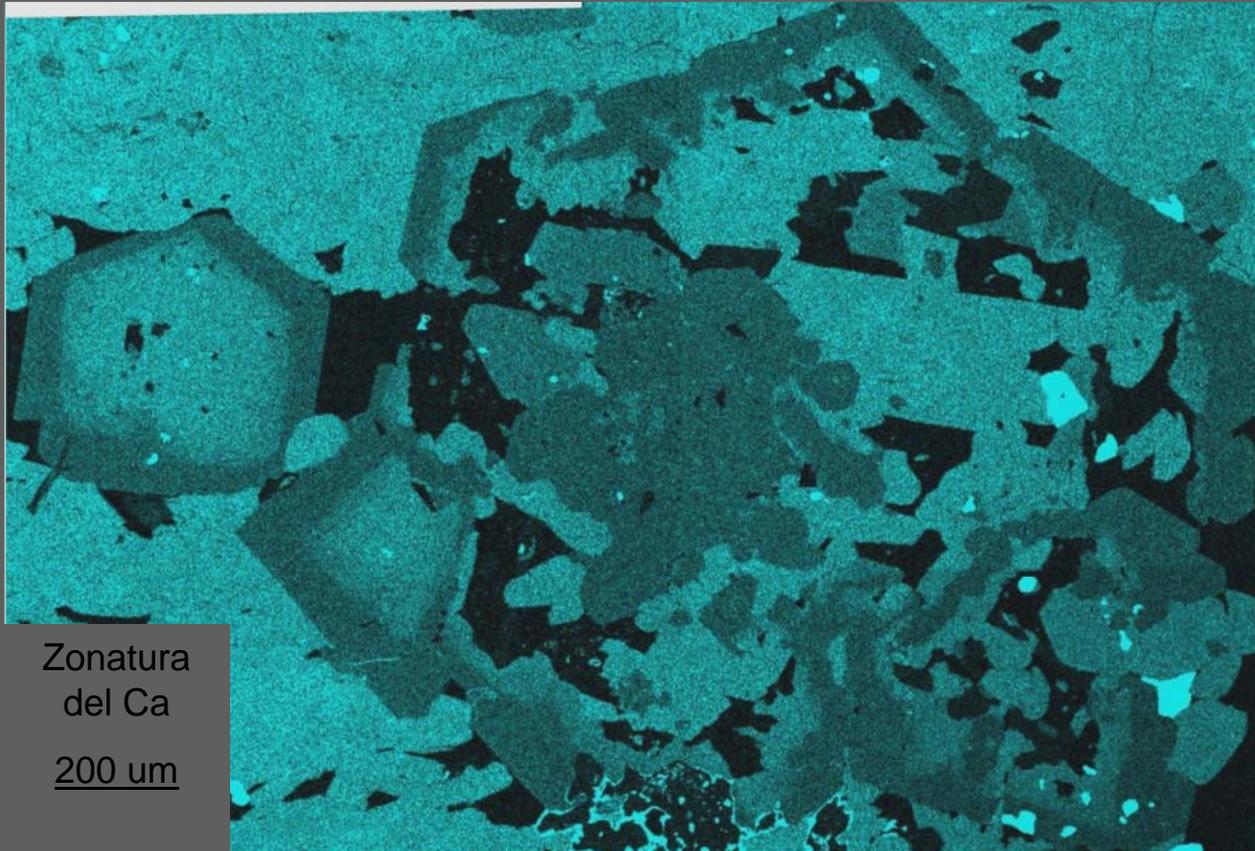
granato ad atollo (eclogiti dei Monti Urali)



granato ad atollo (eclogiti dei Monti Urali)

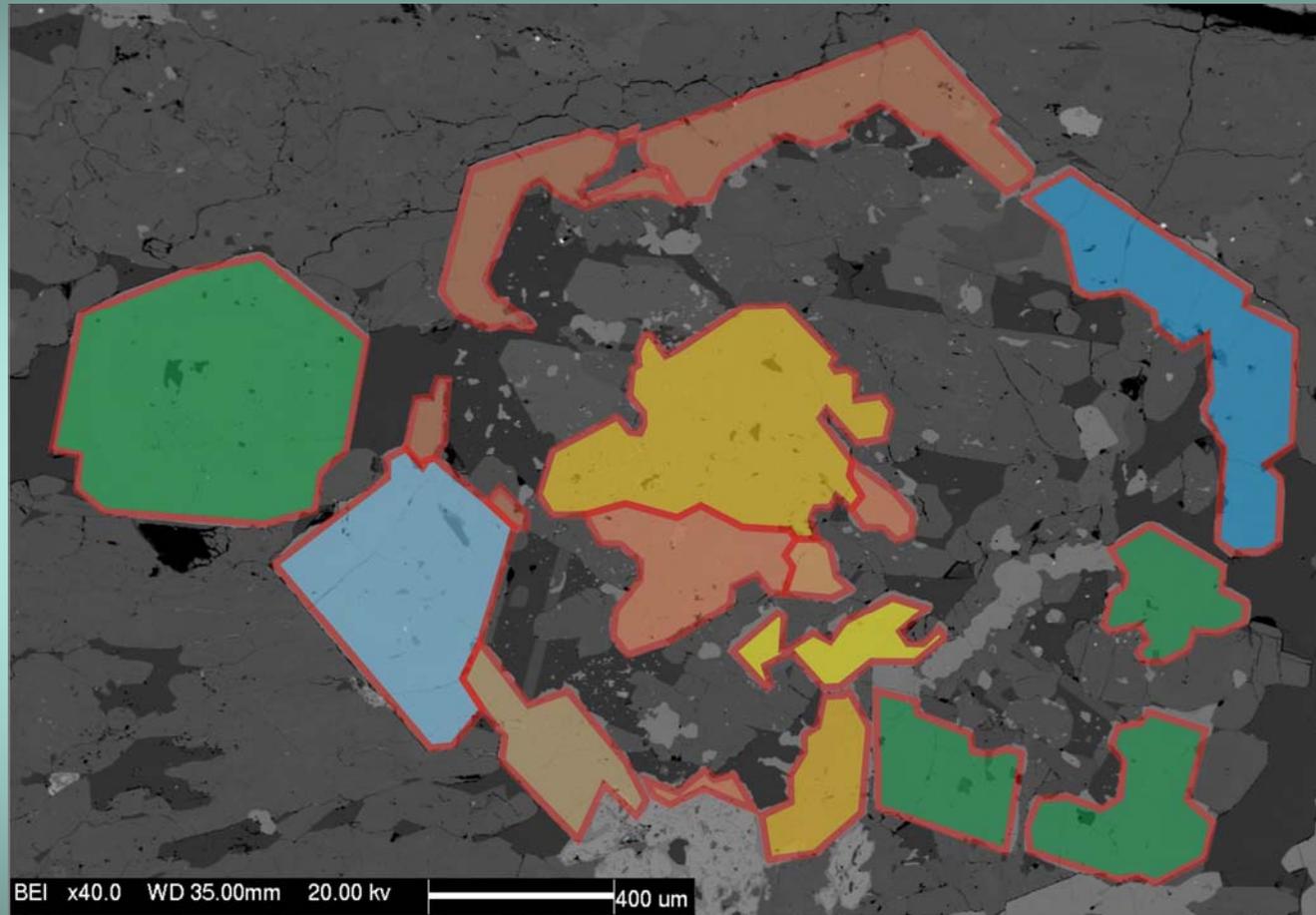


granato ad atollo (eclogiti dei Monti Urali)



Zonatura
del Ca
200 um

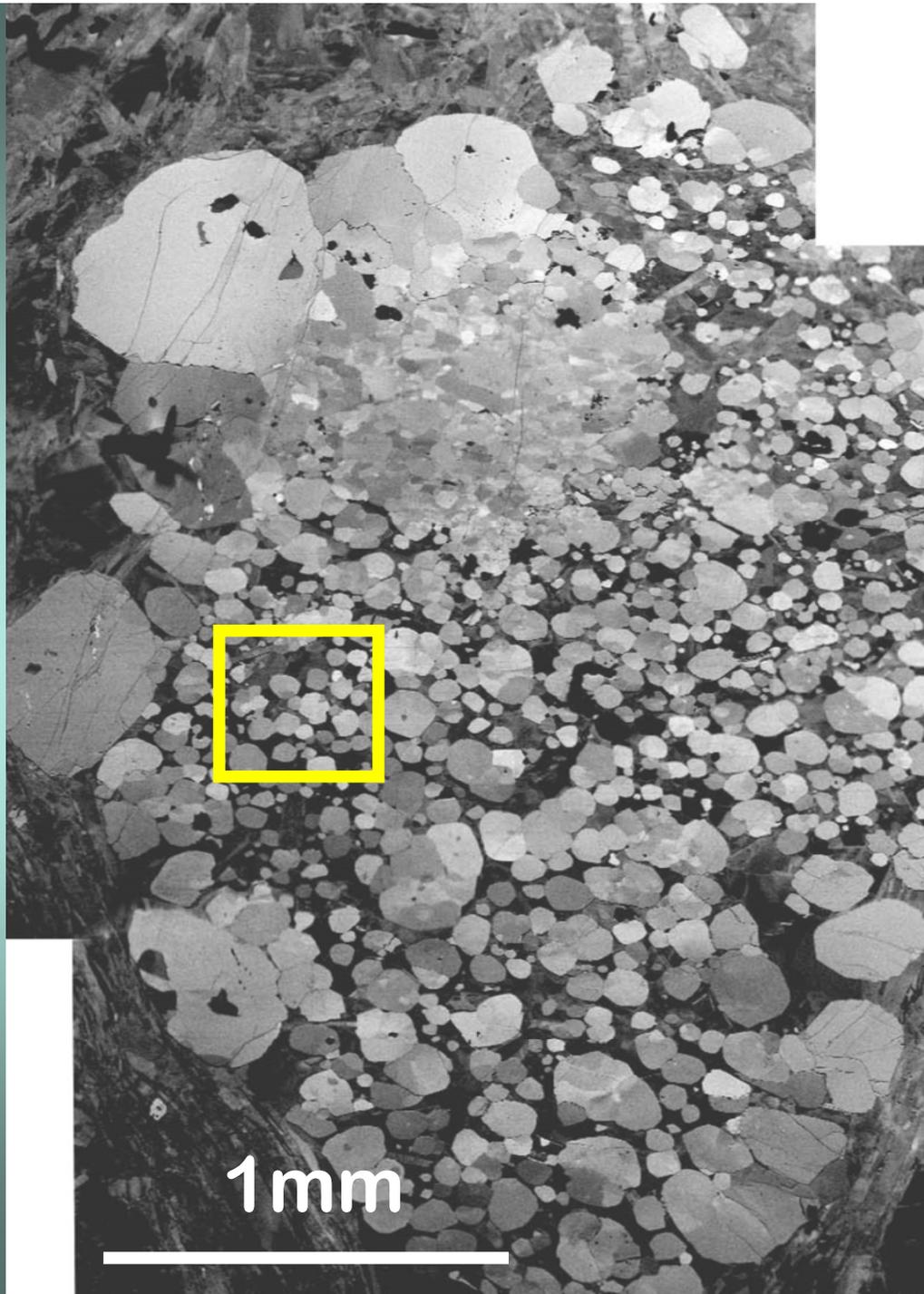
granato ad atollo (eclogiti dei Monti Urali)

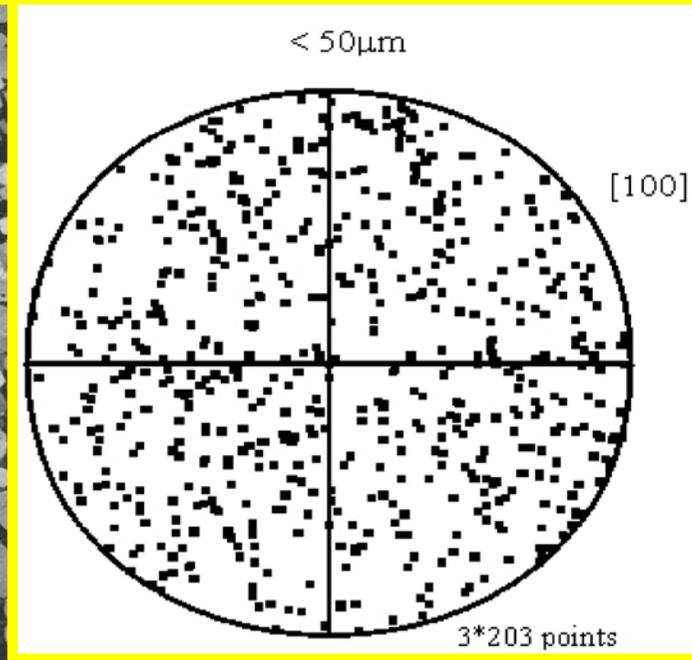
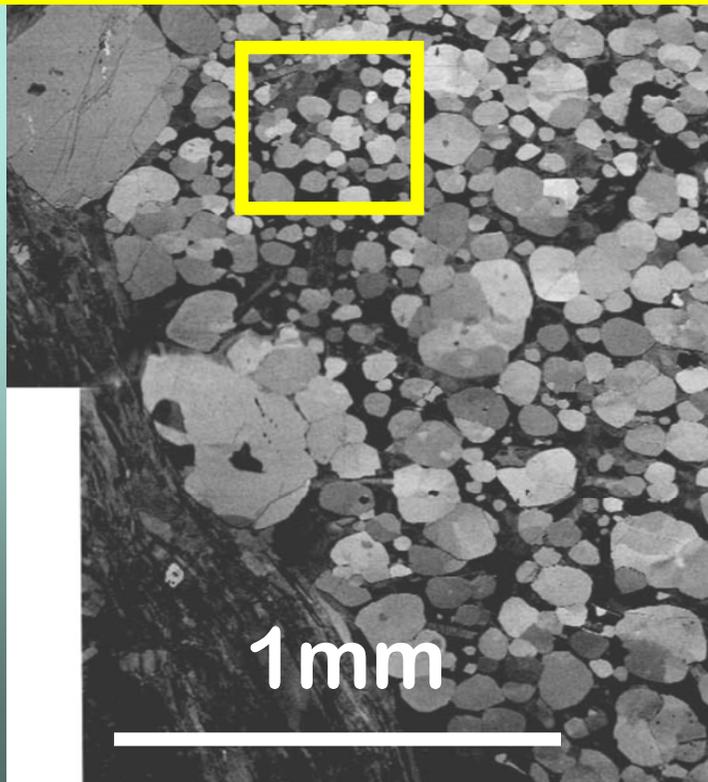
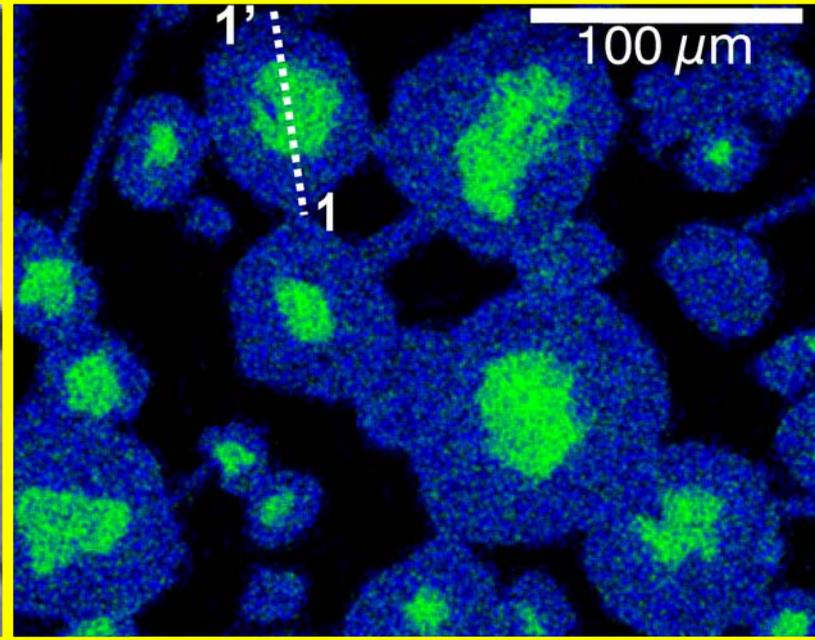
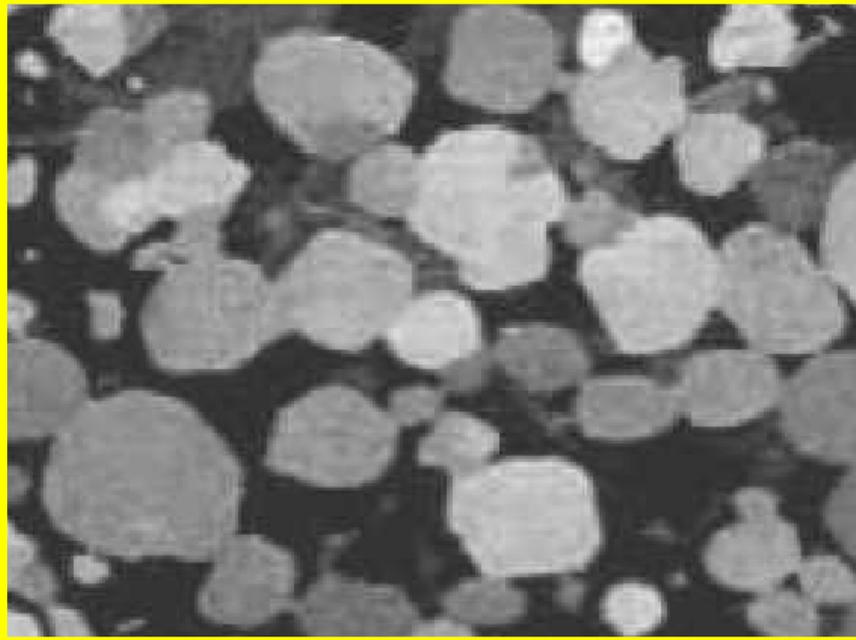


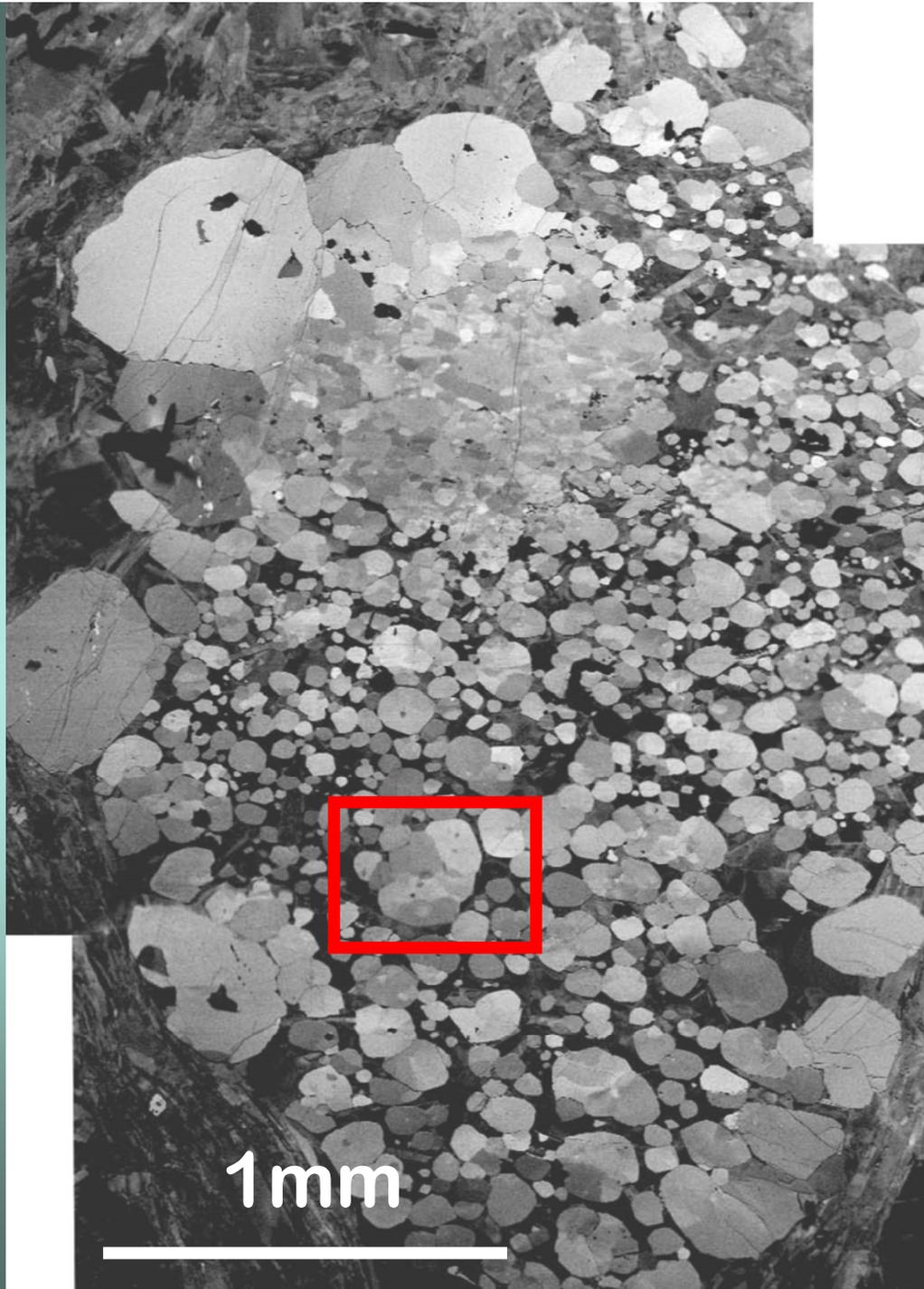
granato ad atollo (eclogiti dei Monti Urali)

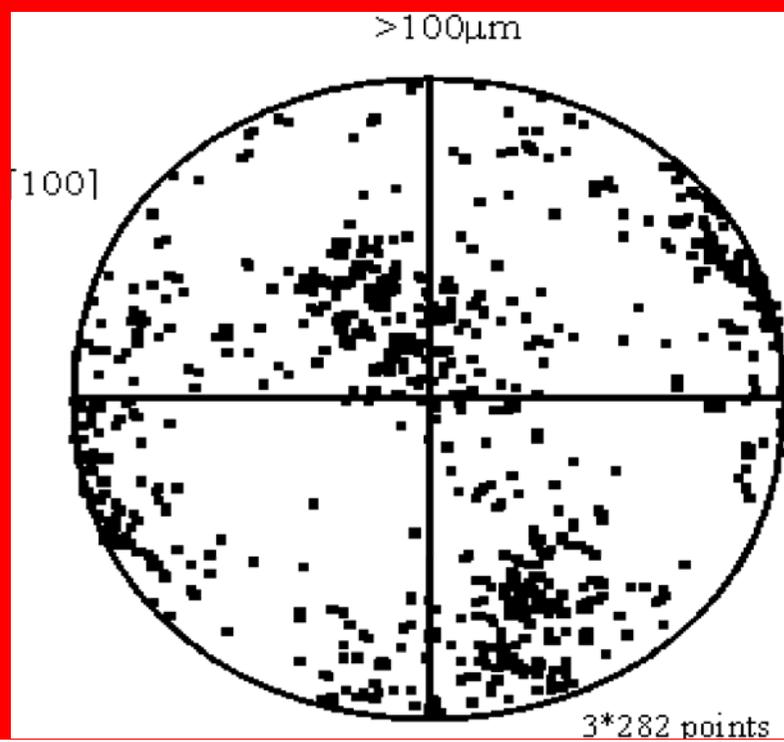
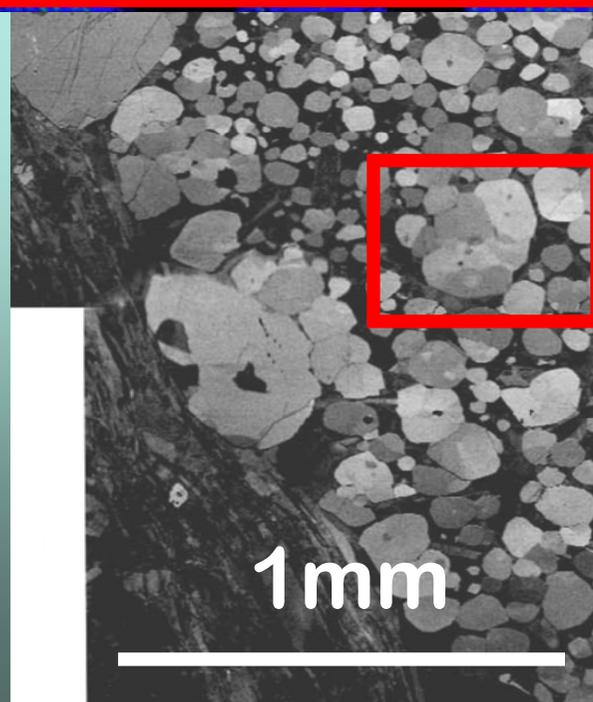
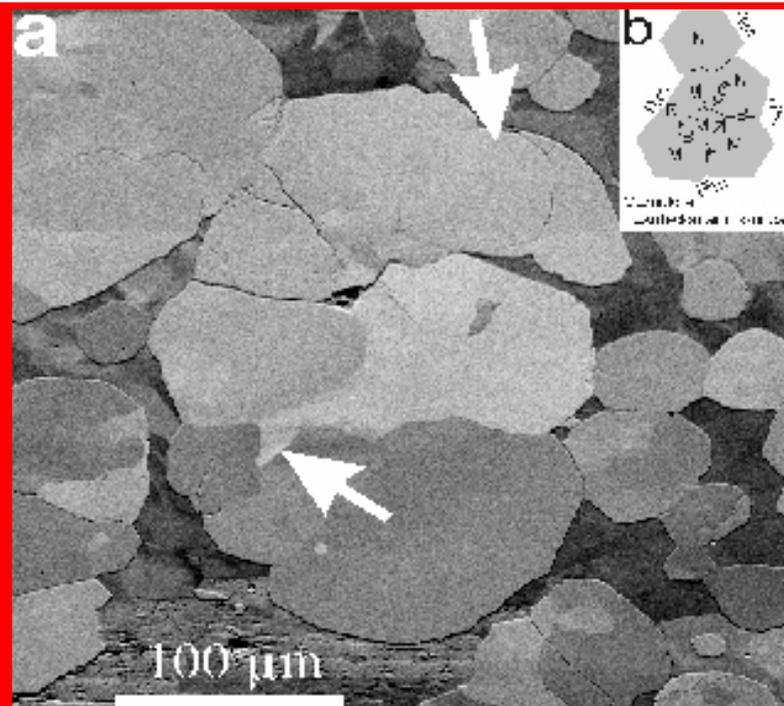
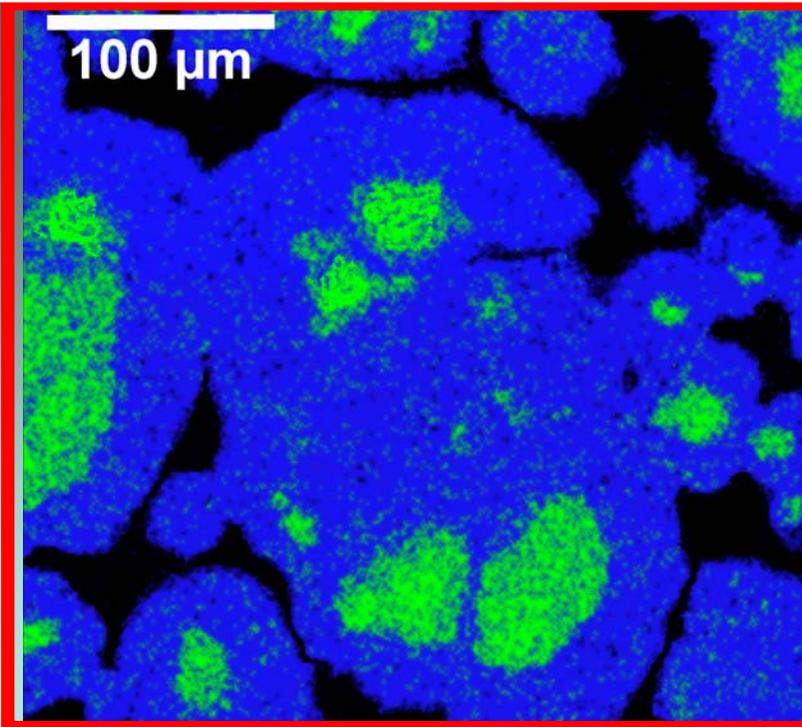


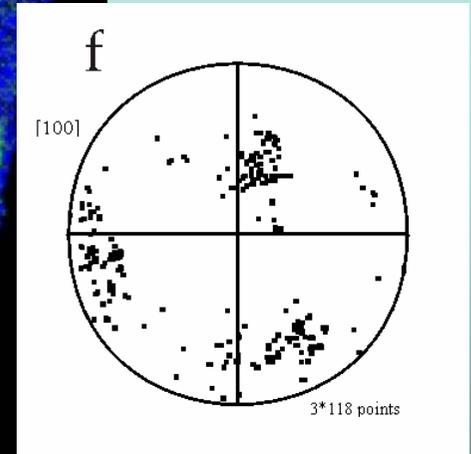
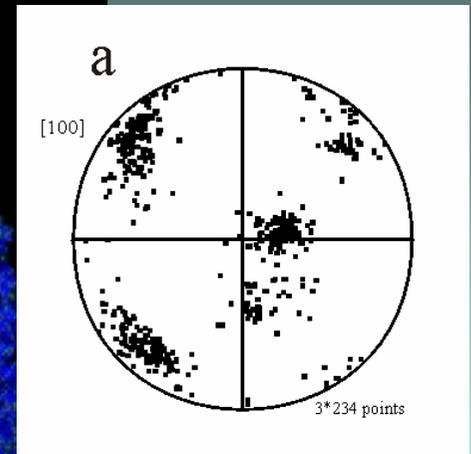
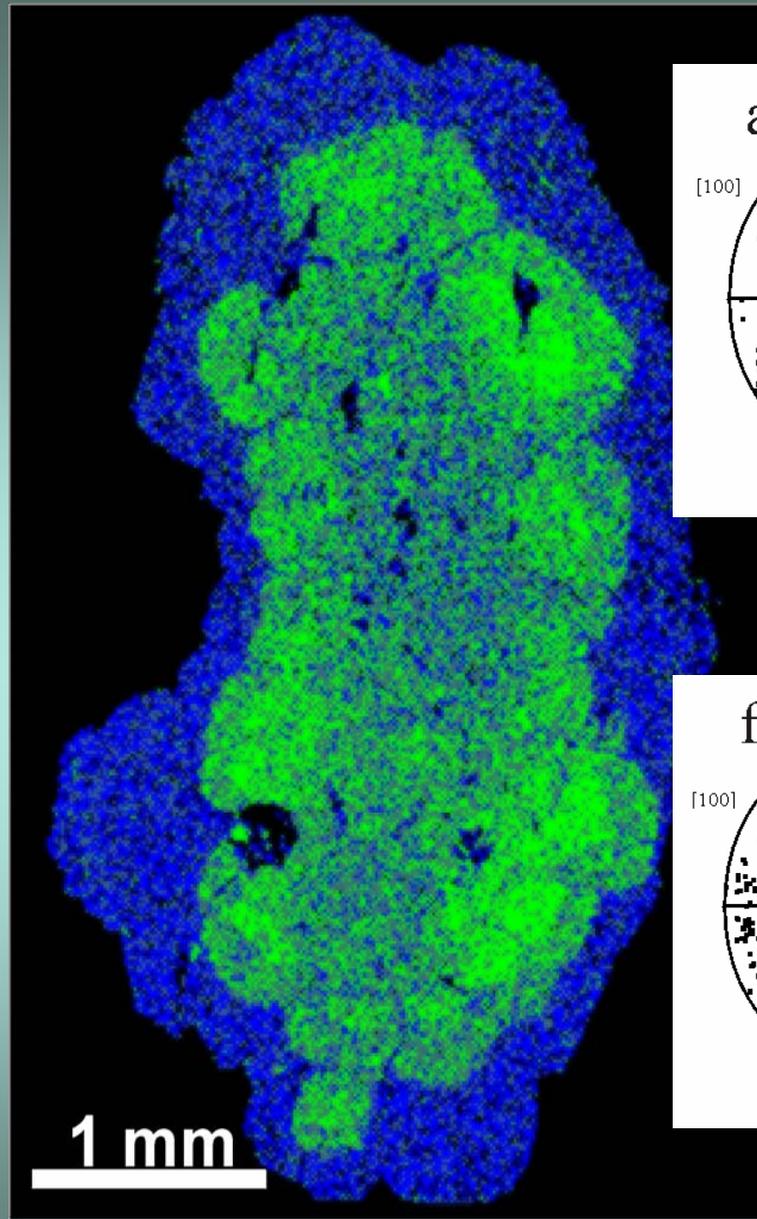
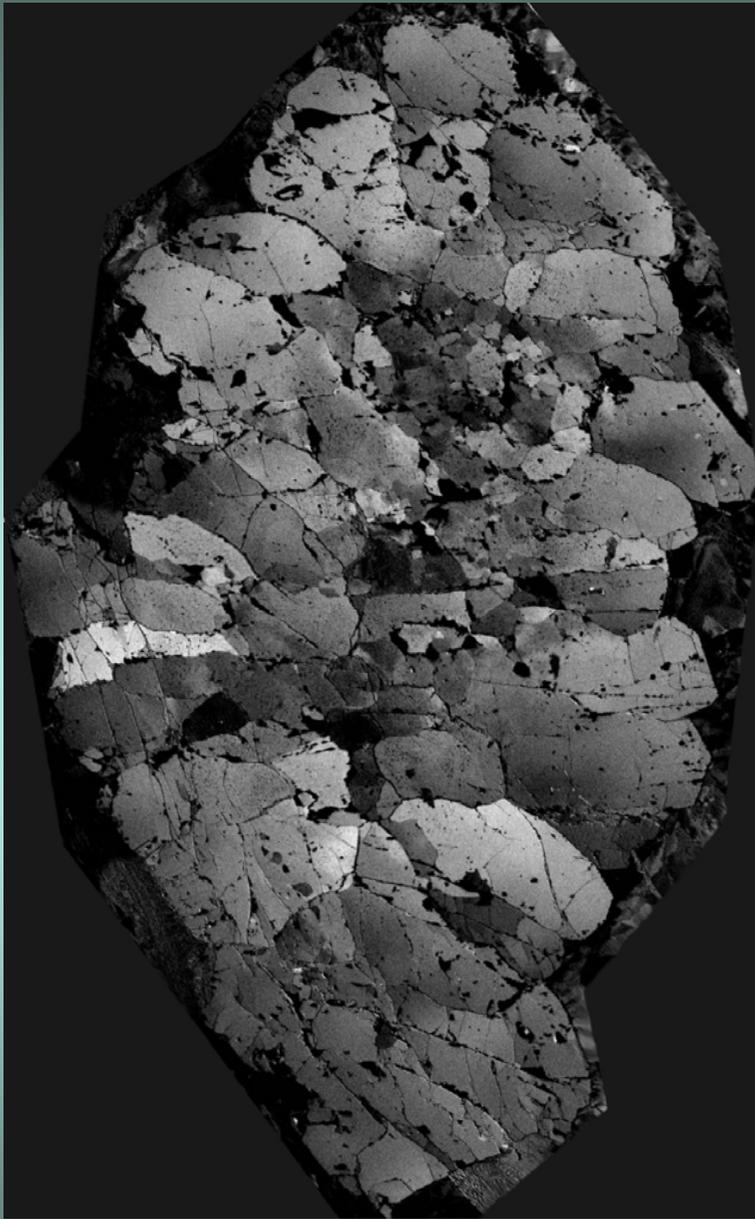
Genesi complessa polistadiale

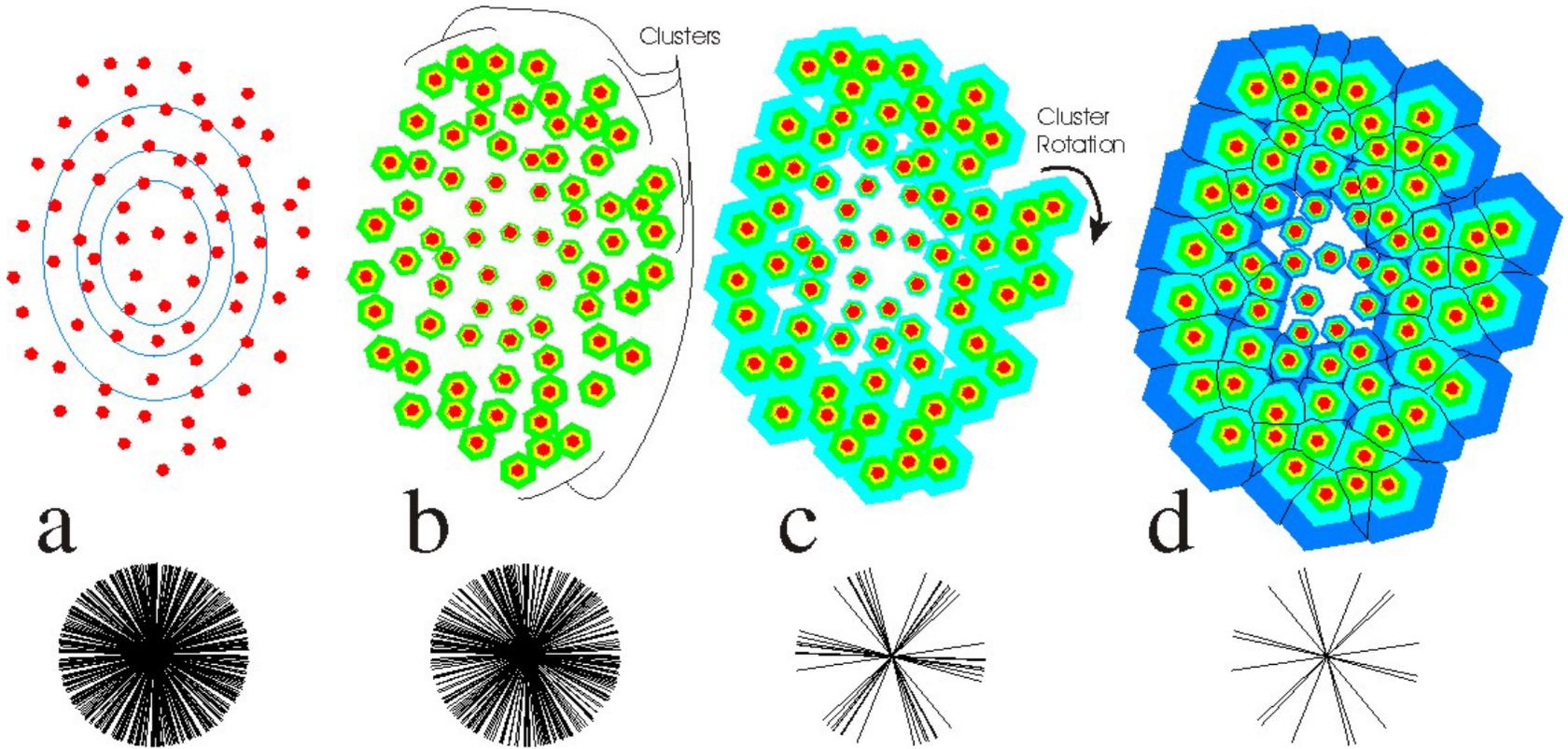






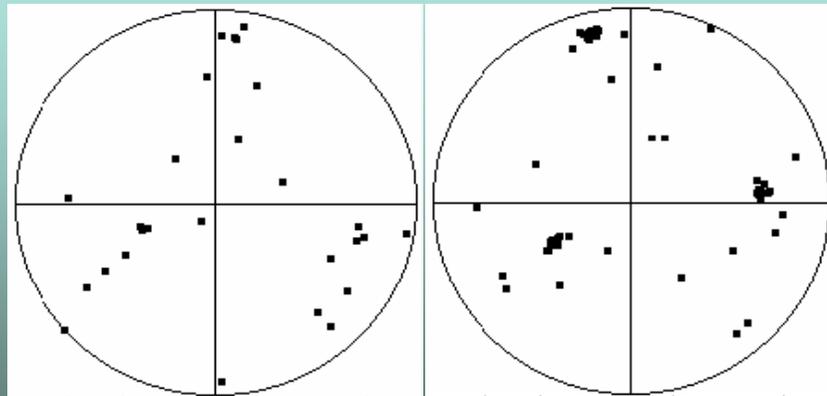
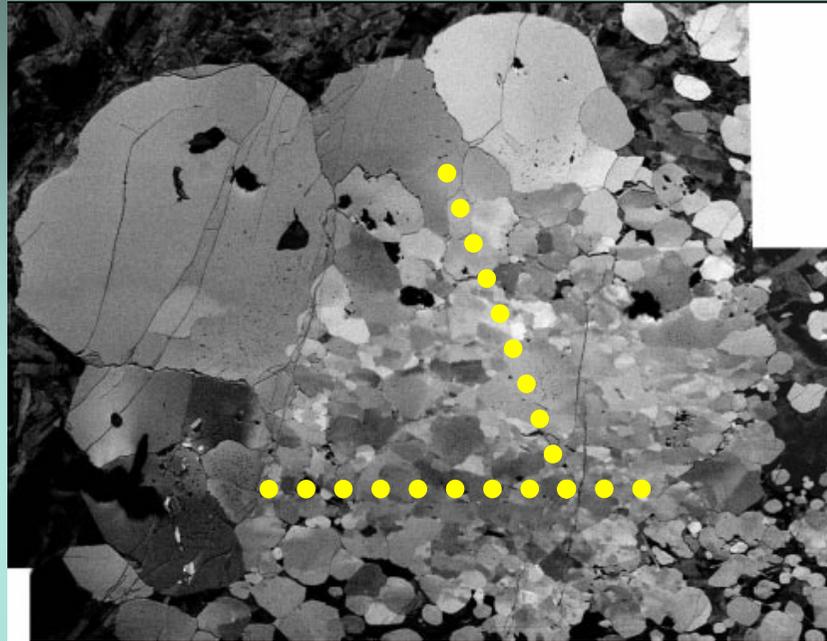






- (a) Simultaneous formation of multiple nuclei with a crystallographic random orientation.
- (b) Set up of growth rate differentials leads to large scale zoning, impinging grains reduce misorientation.
- (c) Ongoing coalescence enhances difficulty of nutrients to diffuse to the centre, misorientation decreases.
- (d) Accretion of large outer rim, final microstructure.

Granati NON deformati



Granati deformati eclogiti alpine

