

QUARTZ

Chemical formula: SiO₂

Crystal system: trigonal, hexagonal

Color in thin section: colorless

Form: allotriomorphic grains, idiomorphic to hypidiomorphic phenocrysts (often embayed due to resorption in the magma)

Cleavage: none

Indices of refraction: $n_{\omega} = 1.544$ $n_{\epsilon} = 1.553$

Birefringence: 0.009

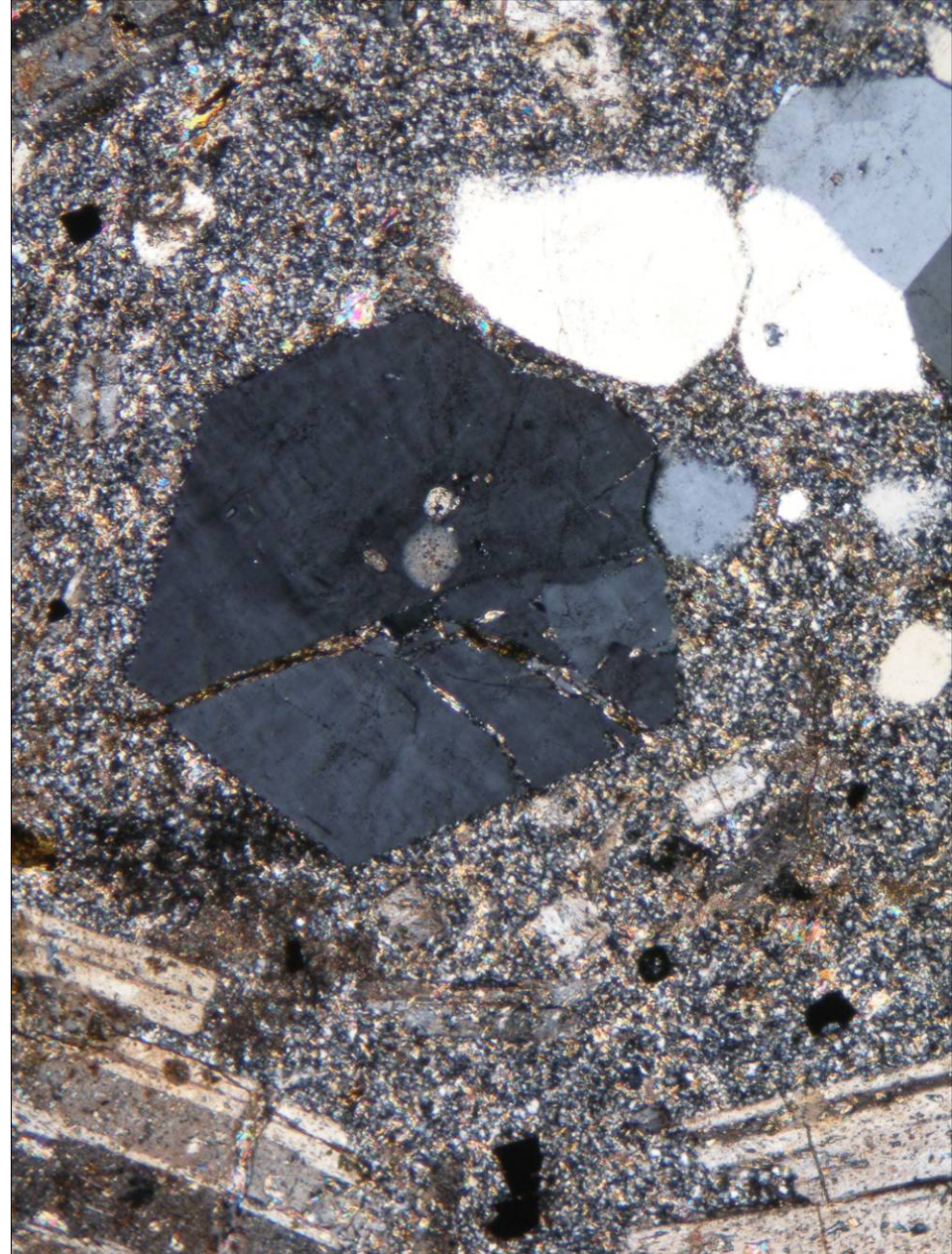
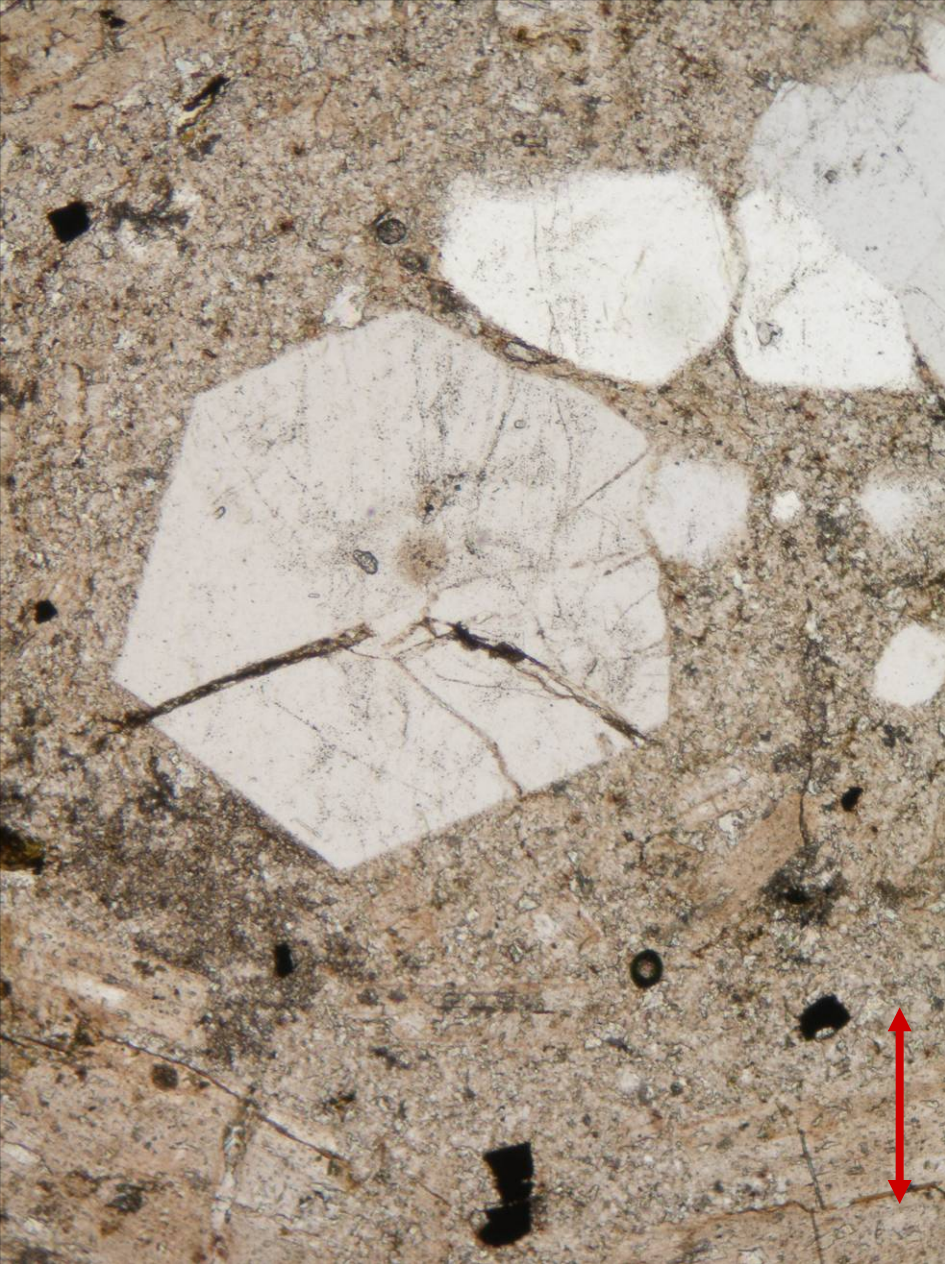
Optic sign: uniaxial positive

Sign of elongation: positive

Occurrence: igneous rocks (granite, granodiorite, tonalite, granitic pegmatite, rhyolite, dacite), metamorphic rocks (slate, phyllite, mica schist, gneiss, migmatite, quartzite), hydrothermal veins

Similar minerals in thin sections: K-feldspars (biaxial, lower indices of refraction, cleavage, alterations, twinning), plagioclase (biaxial, twin lamellae), cordierite (biaxial, sometimes pinite alteration)

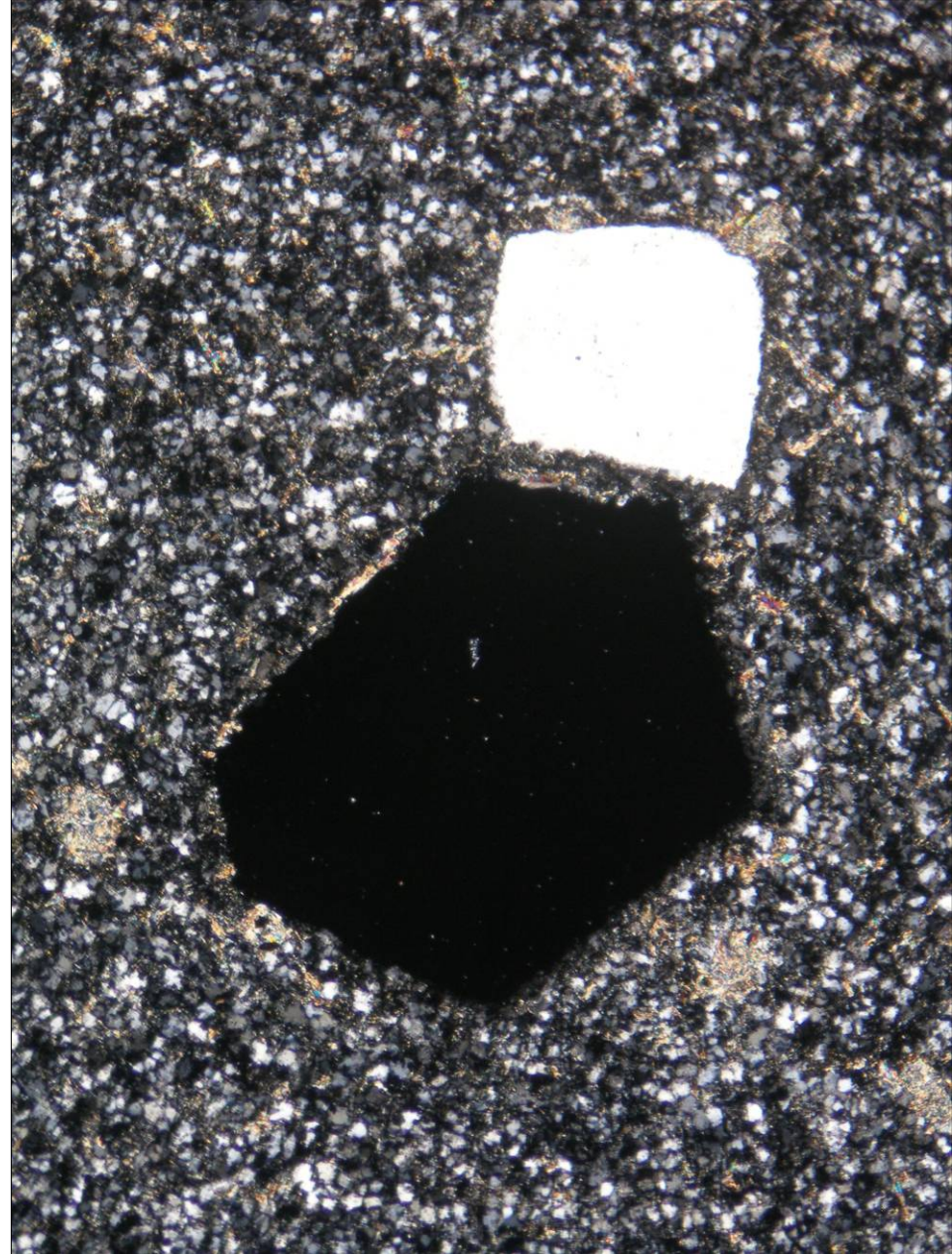
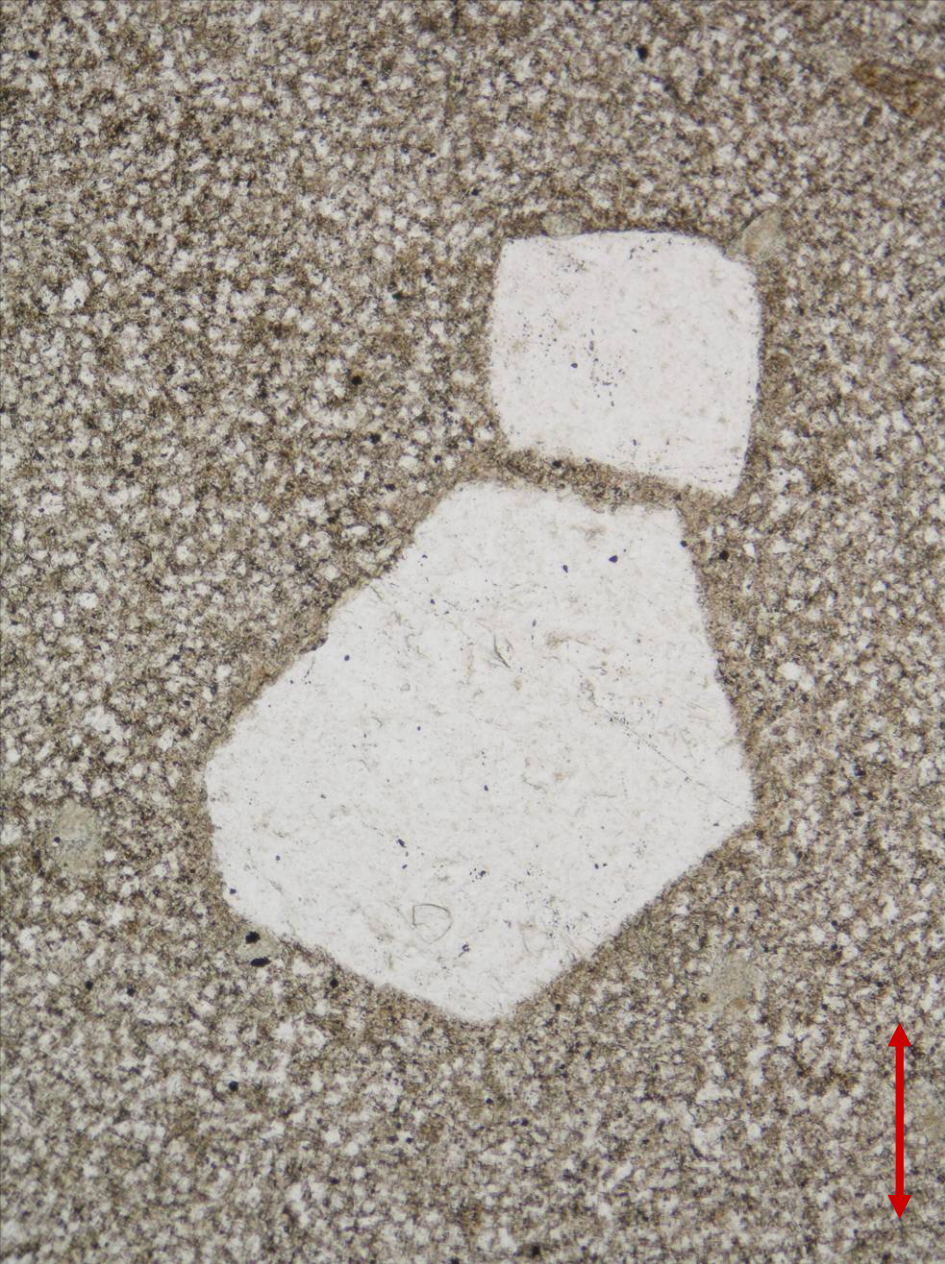
Note: often undulatory extinction



Quartz phenocrysts in palaeorhyolite from Jáchymov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



Embayed quartz phenocryst in pitchstone from Triebitschtal near Meissen, Germany; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



Quartz phenocrysts in palaeorhyolite from Teplice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



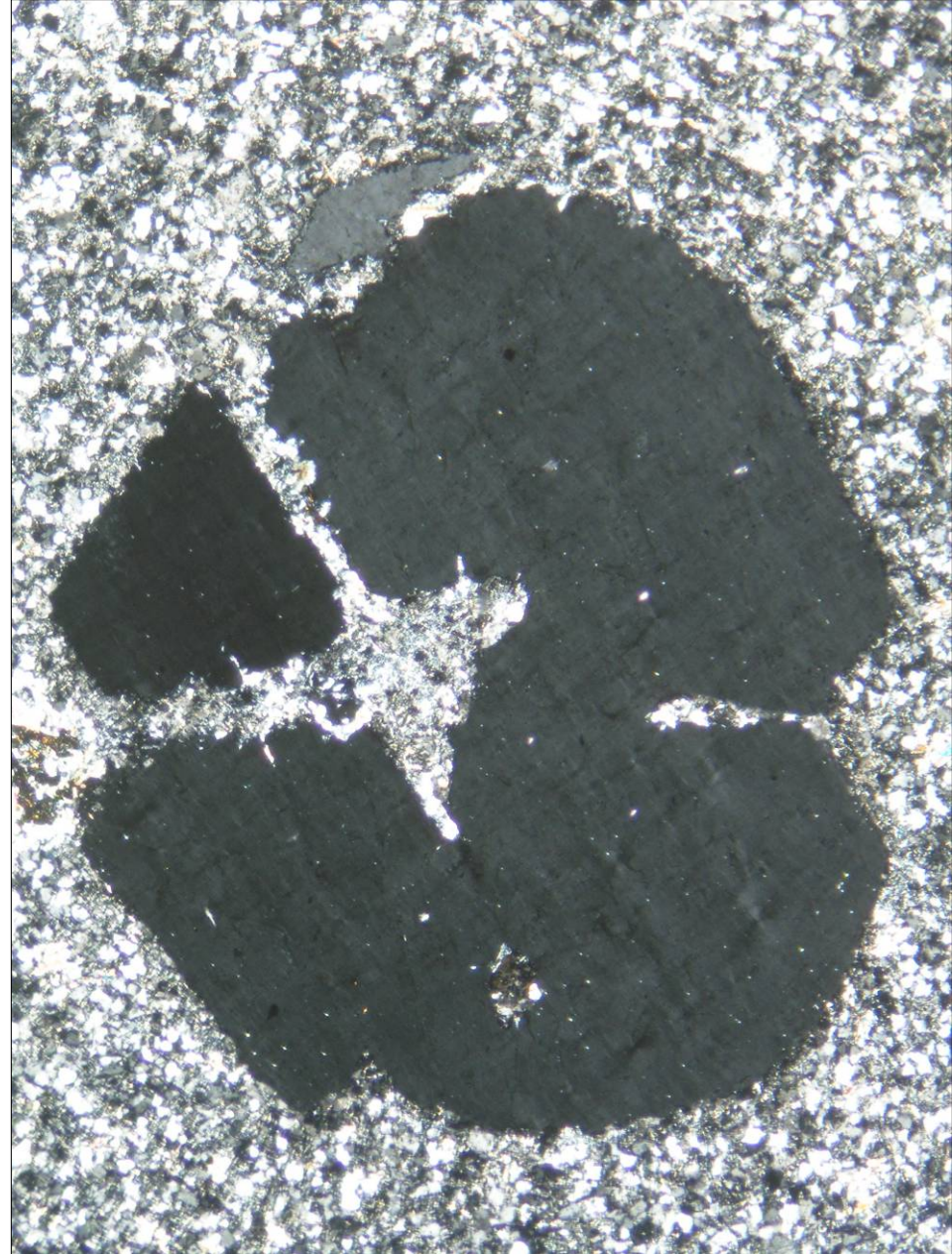
Embayed quartz phenocrysts in palaeorhyolite from Teplice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



Embayed quartz phenocryst in palaeorhyolite from Teplice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



Embayed quartz phenocryst in palaeorhyolite from Teplice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 2.0 mm. Photo: JiZi.



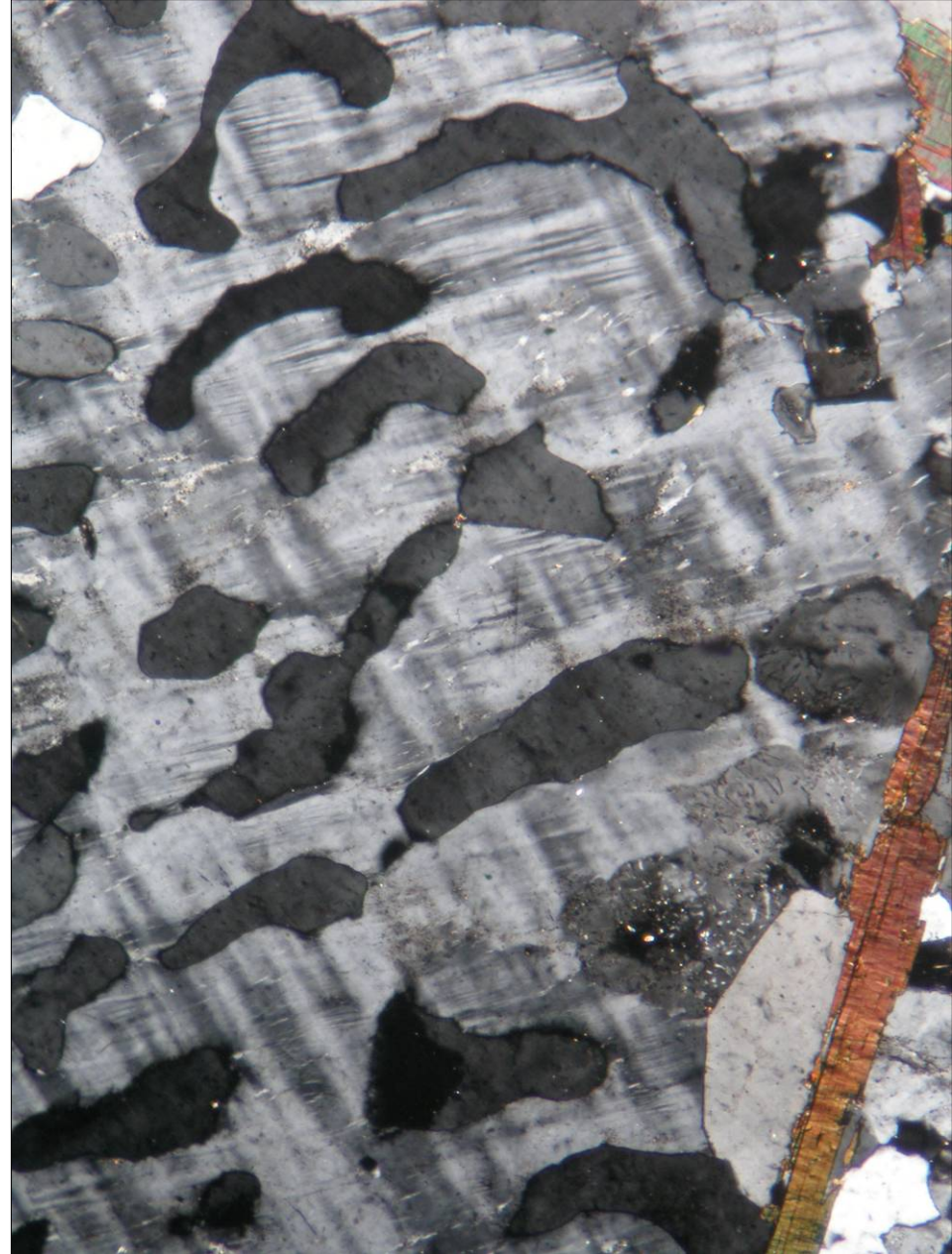
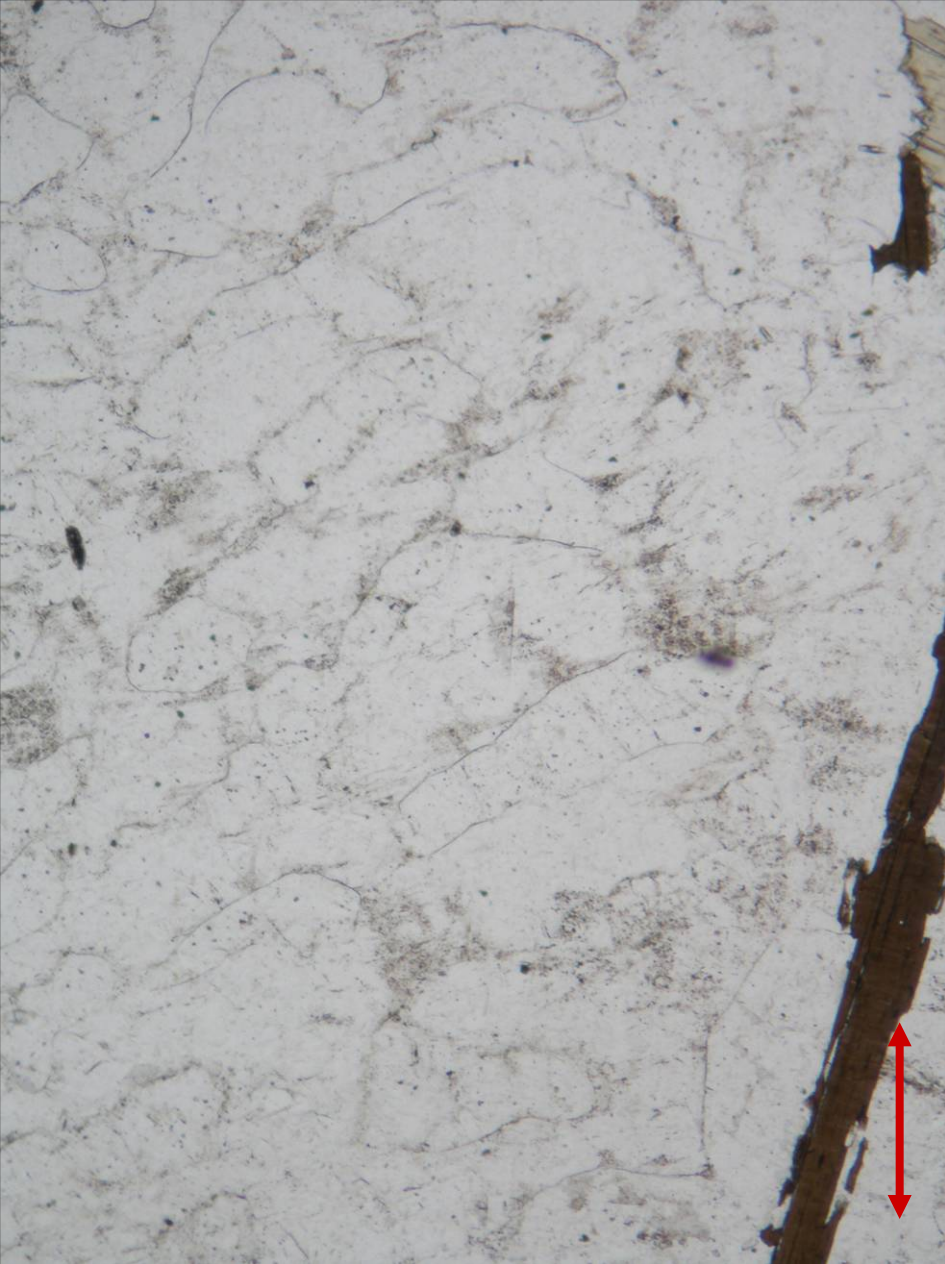
Rounded quartz phenocryst in palaeorhyolite from Teplice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 2.0 mm. Photo: JiZi.



Undulatory quartz in palaeorhyolite from Ludmírov, the Czech Republic; XPL. Field of view is ca. 2.3 mm wide. Photo: JiZi.



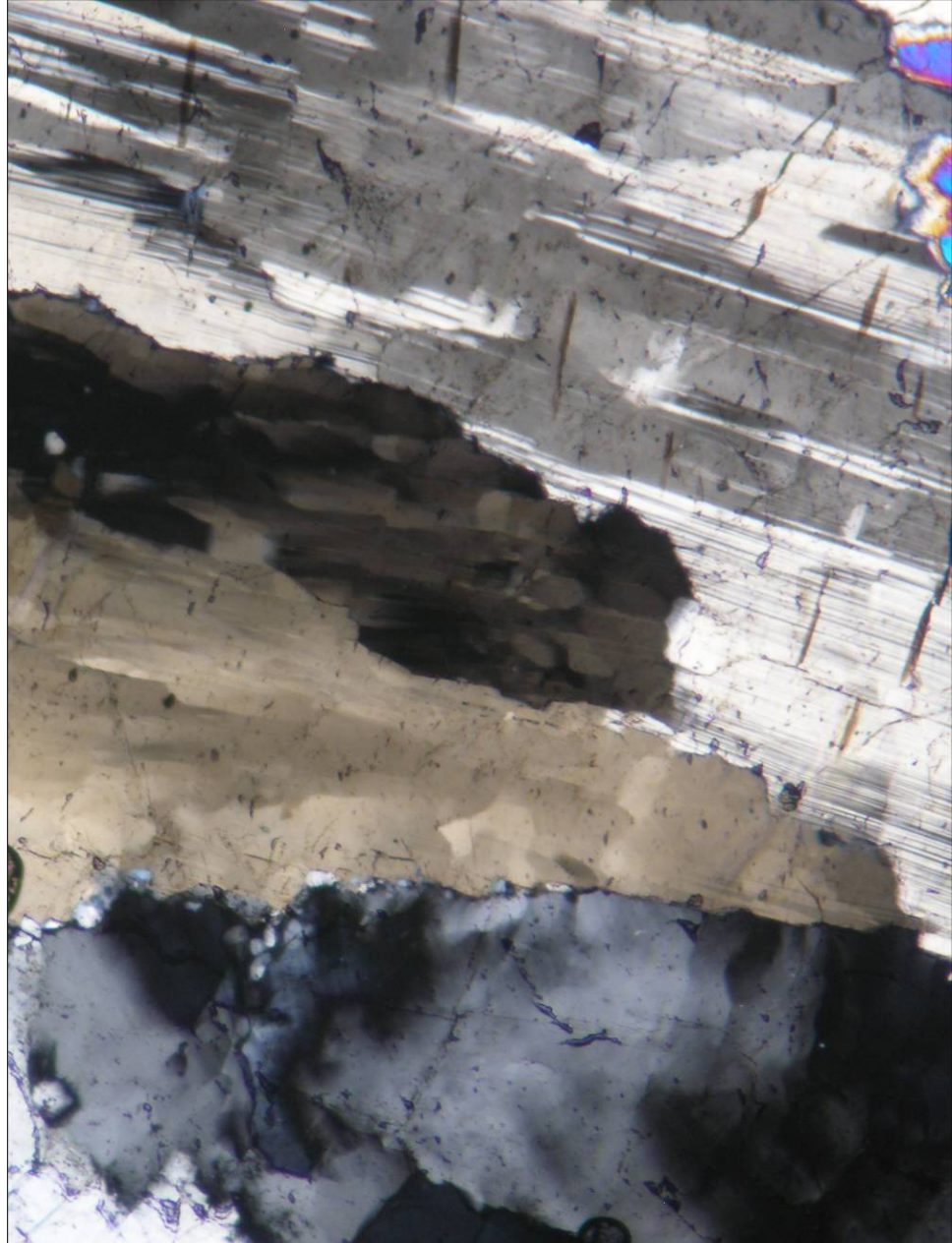
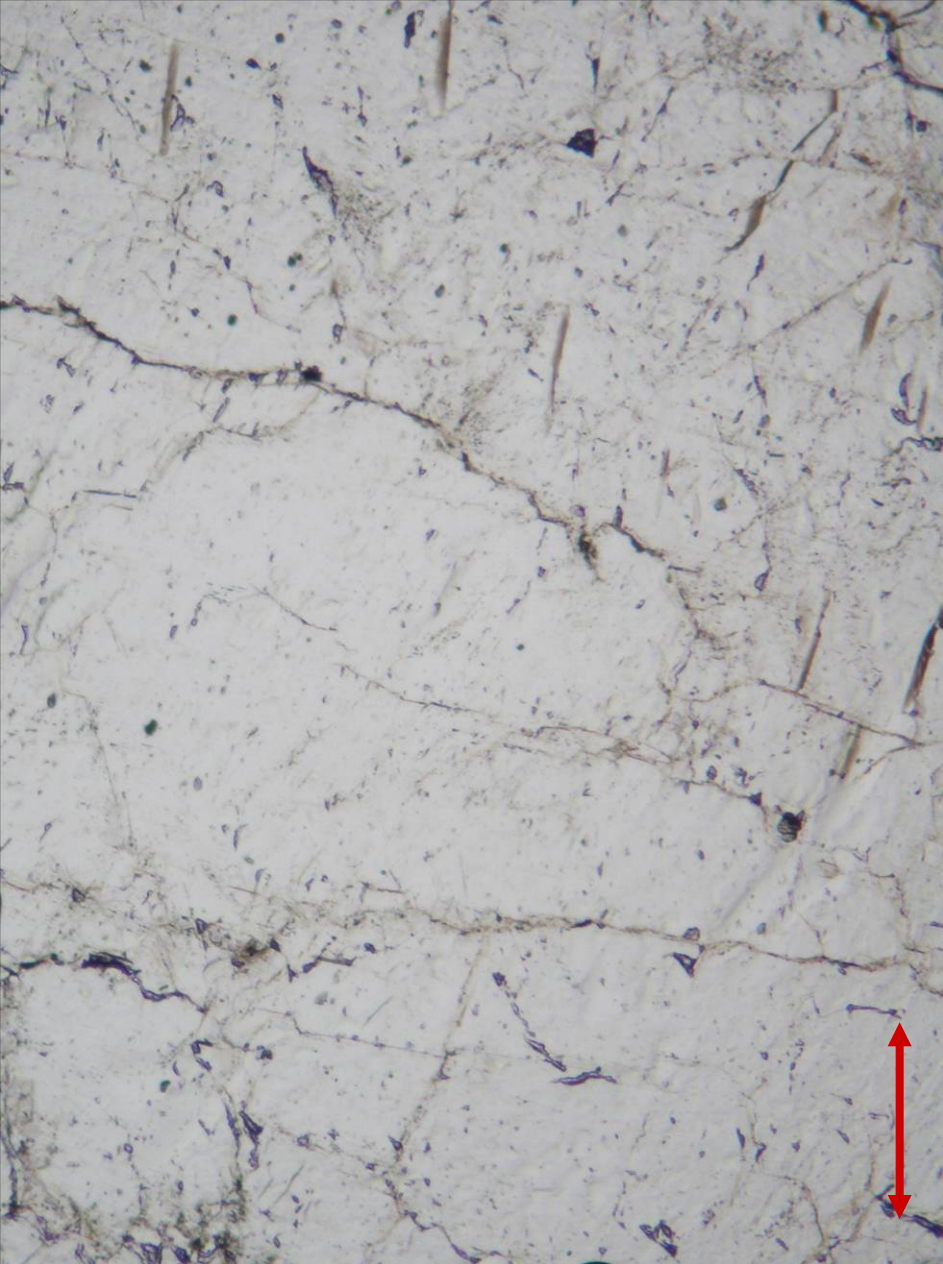
Quartz phenocrysts in metamorphosed palaeorhyolite from Oskava, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



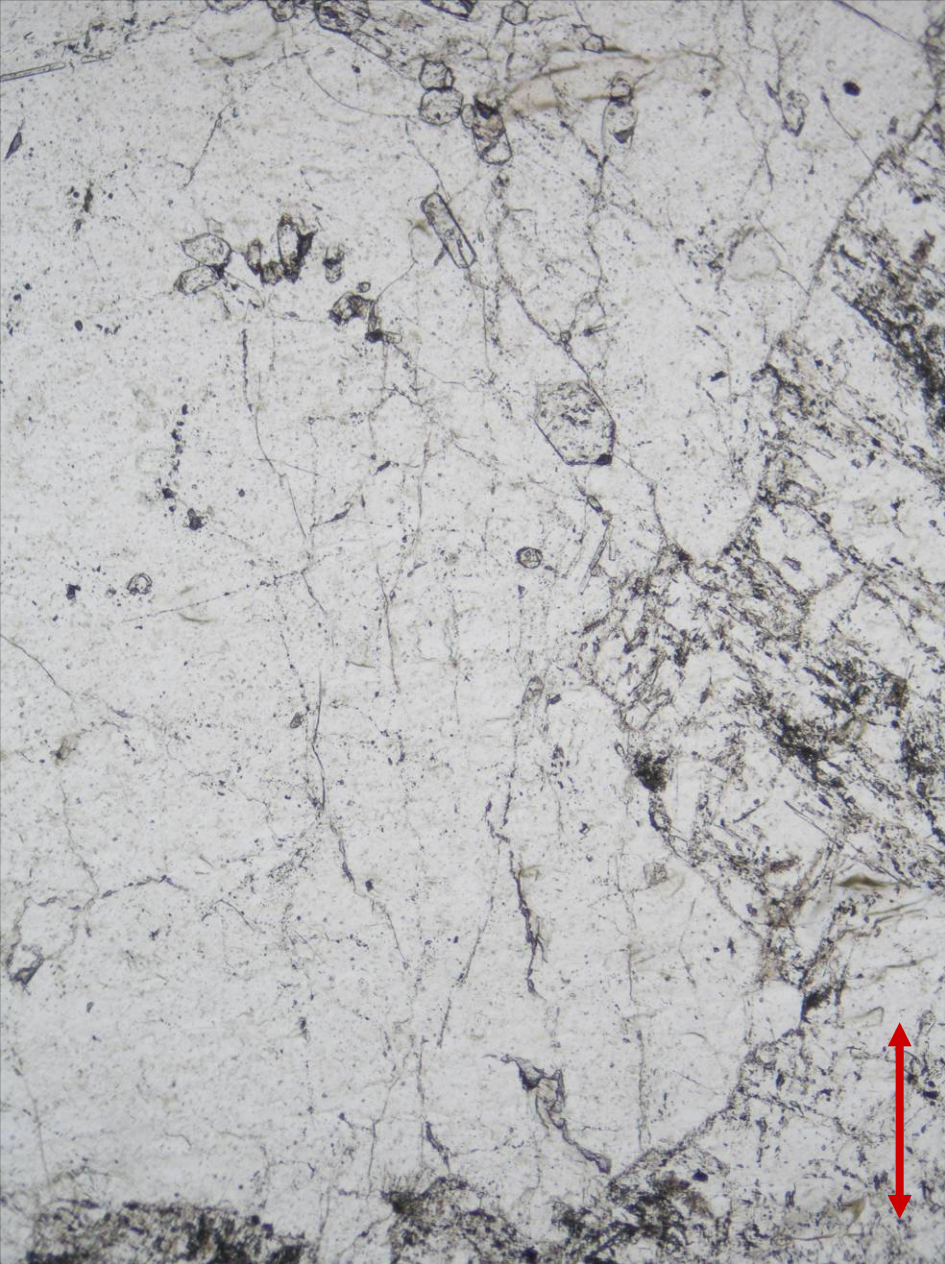
Graphic intergrowth of quartz and microcline in aplopegmatite from Černá Voda, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



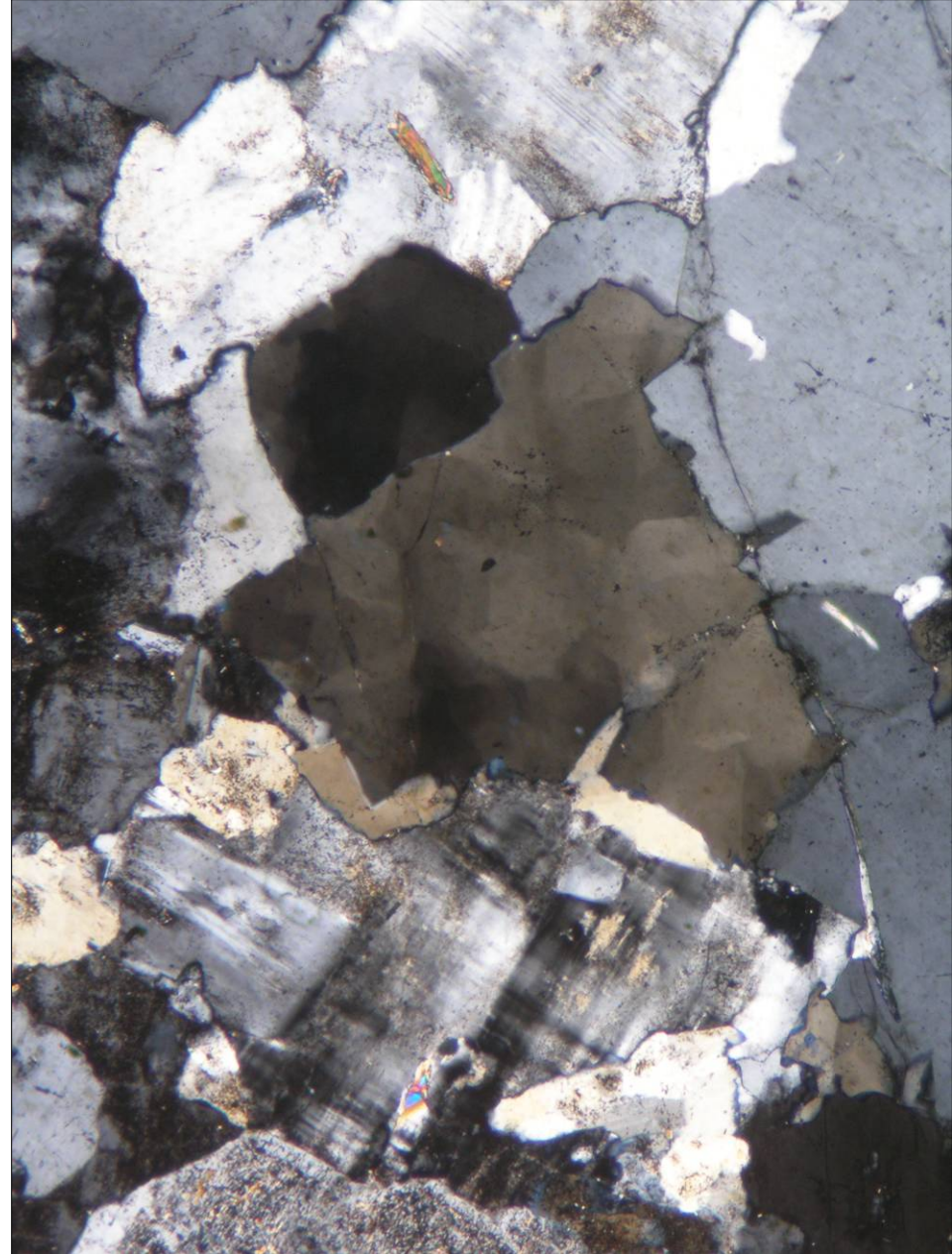
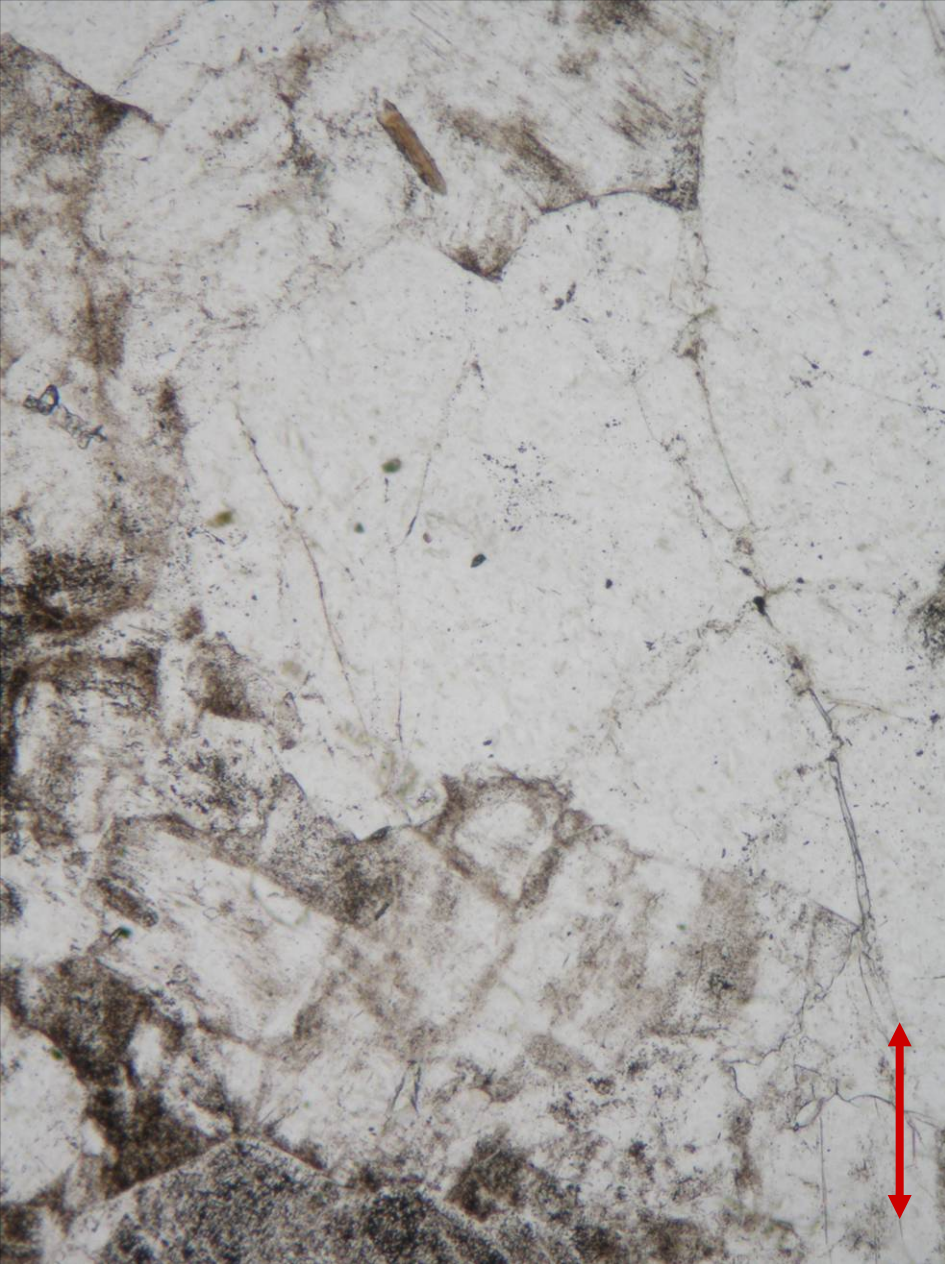
Quartz and feldspars in a graphic intergrowth in pegmatite from Maršíkov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



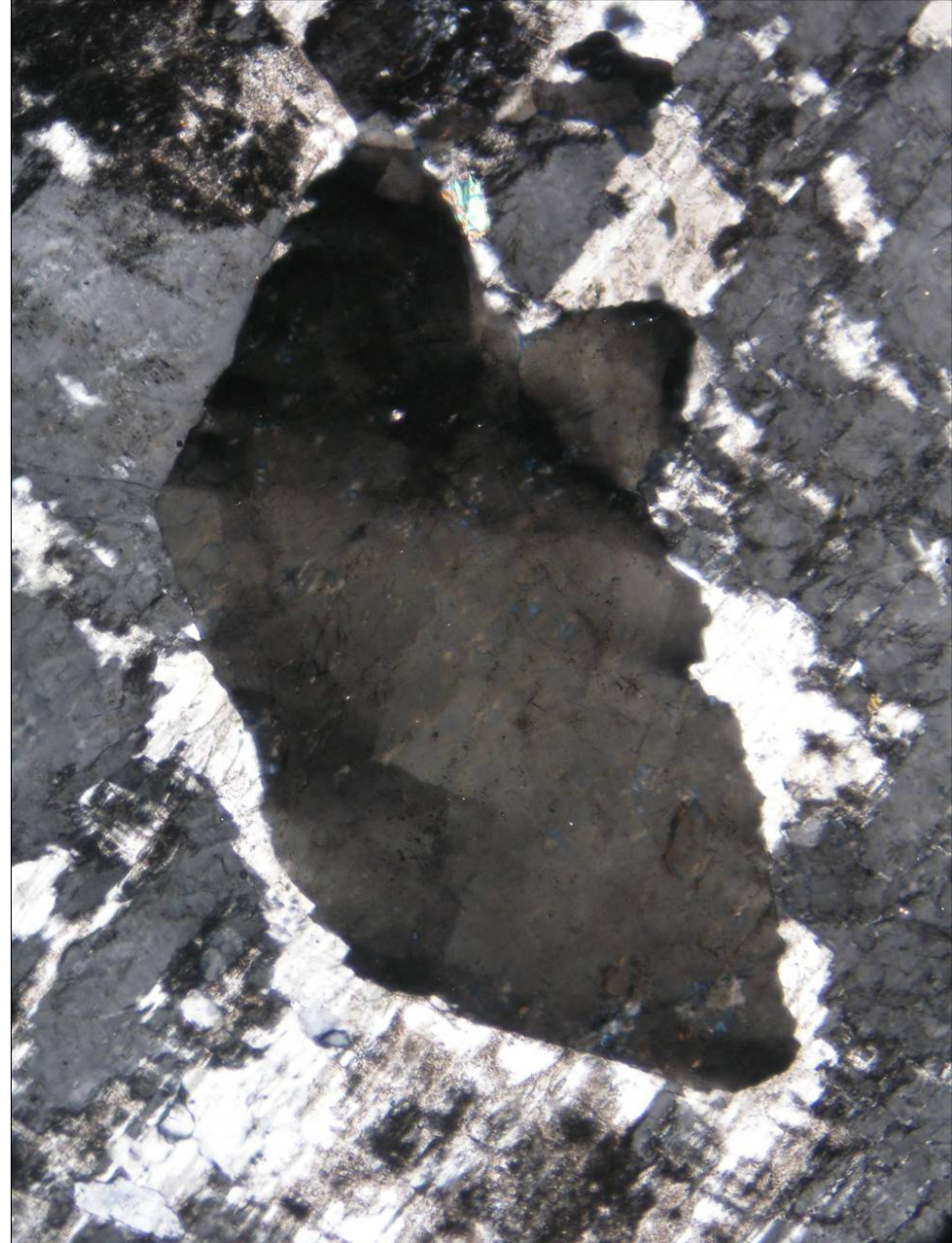
Undulatory quartz with plagioclase (albite) in pegmatite from Maršíkov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.3 mm. Photo: JiZi.



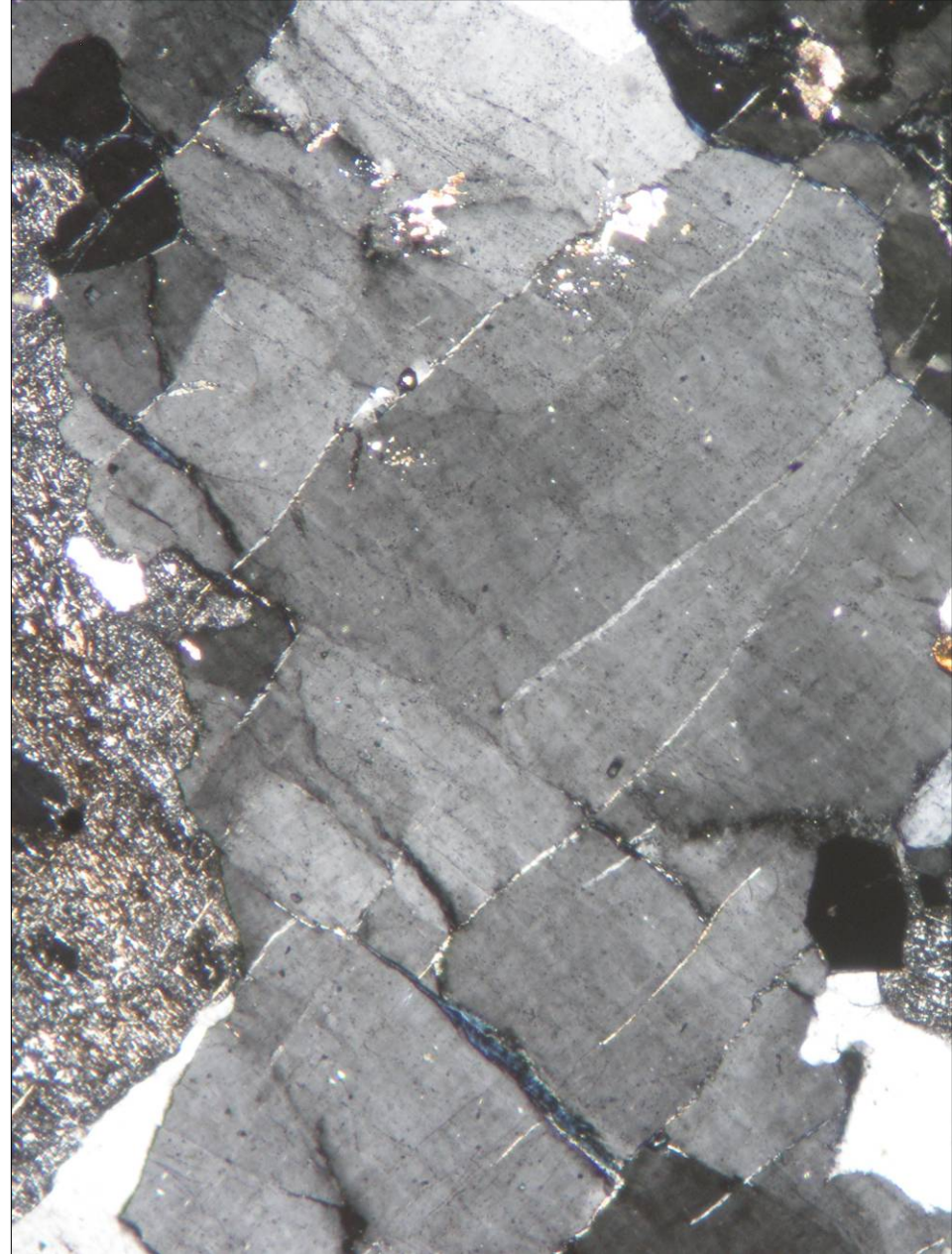
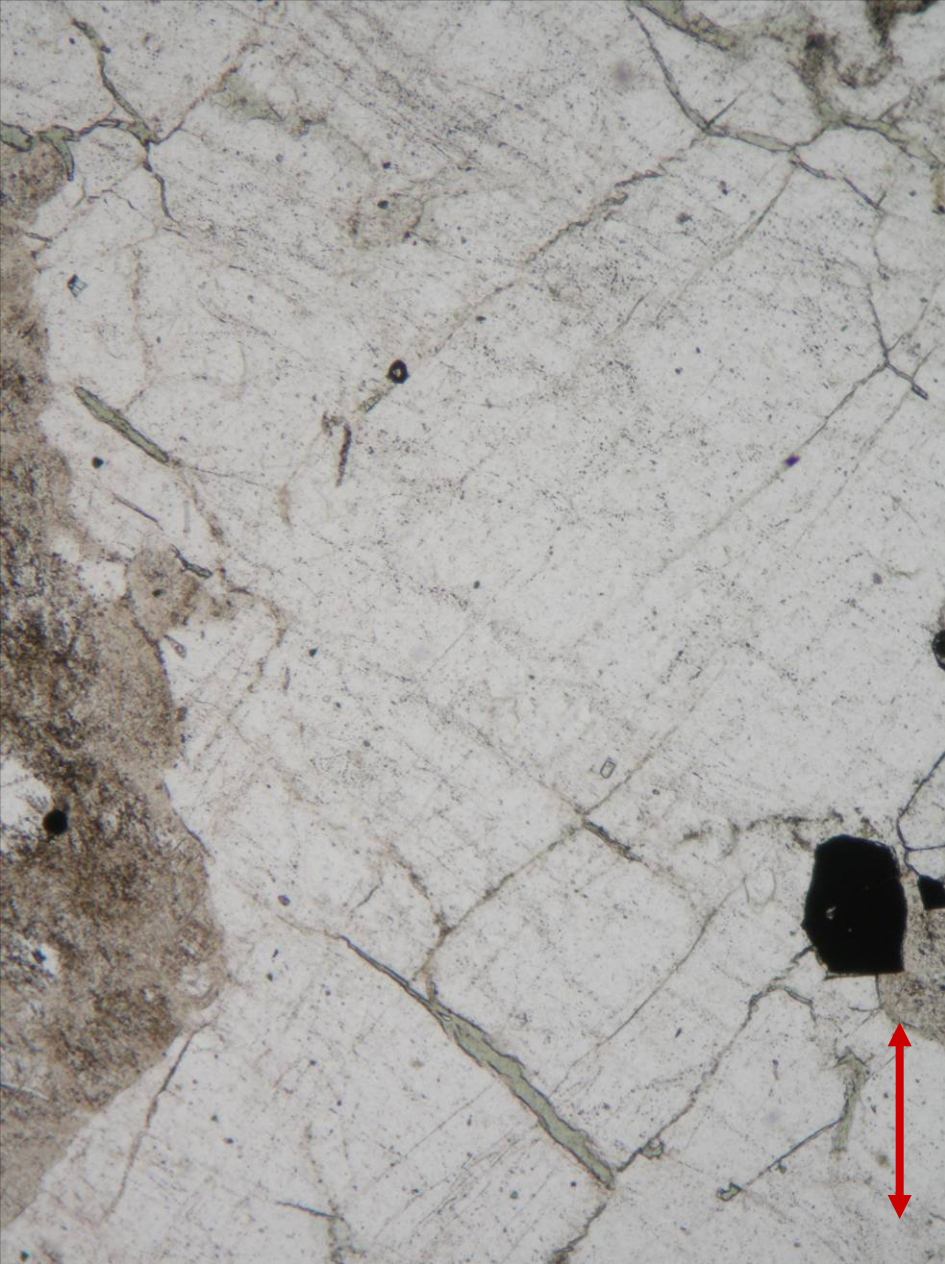
Quartz in pegmatite from Žulová, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



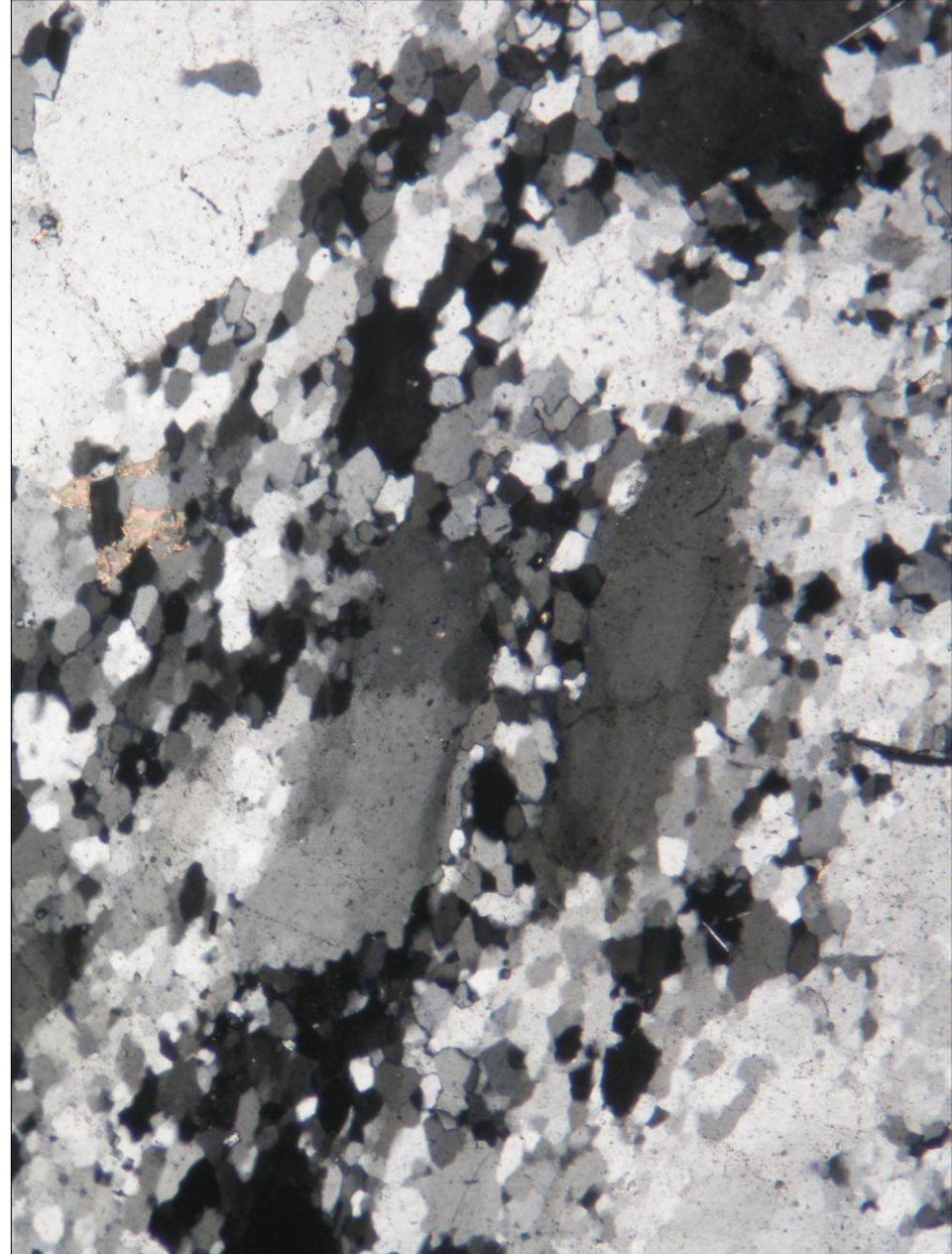
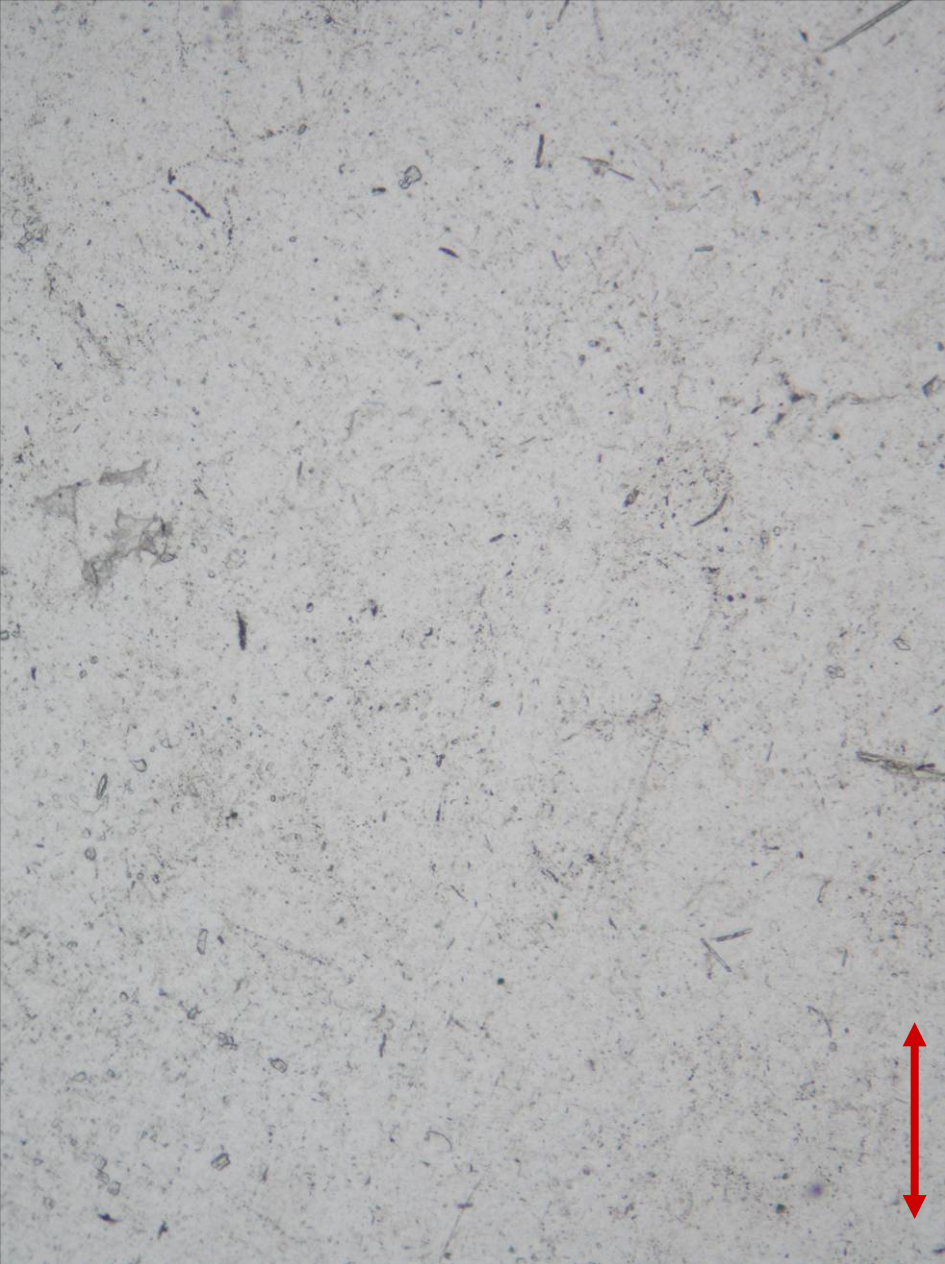
Undulatory quartz with feldspars in granite from Mrákořín, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.6 mm. Photo: JiZi.



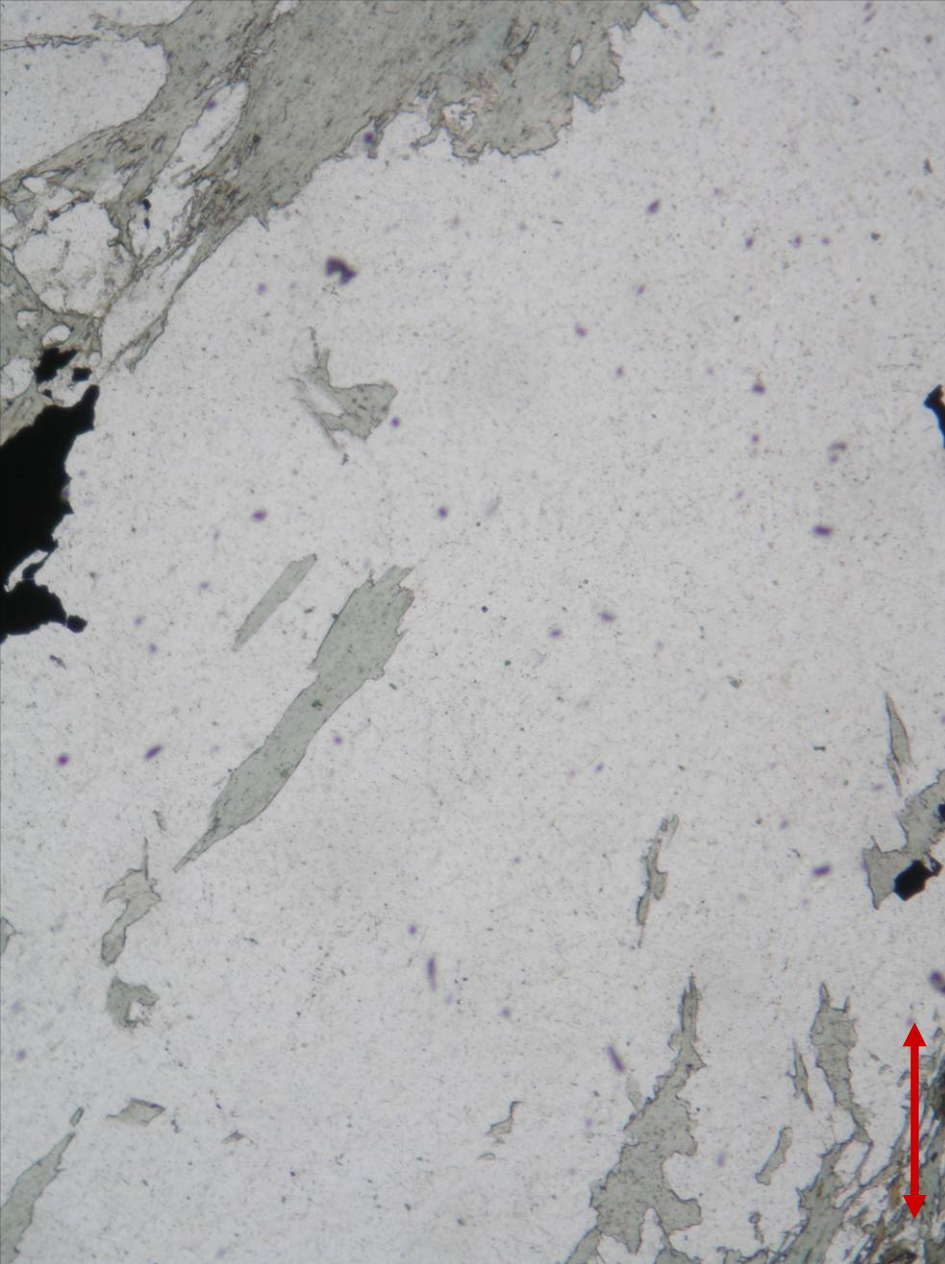
Undulatory quartz with feldspars in pegmatite from Maršíkov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



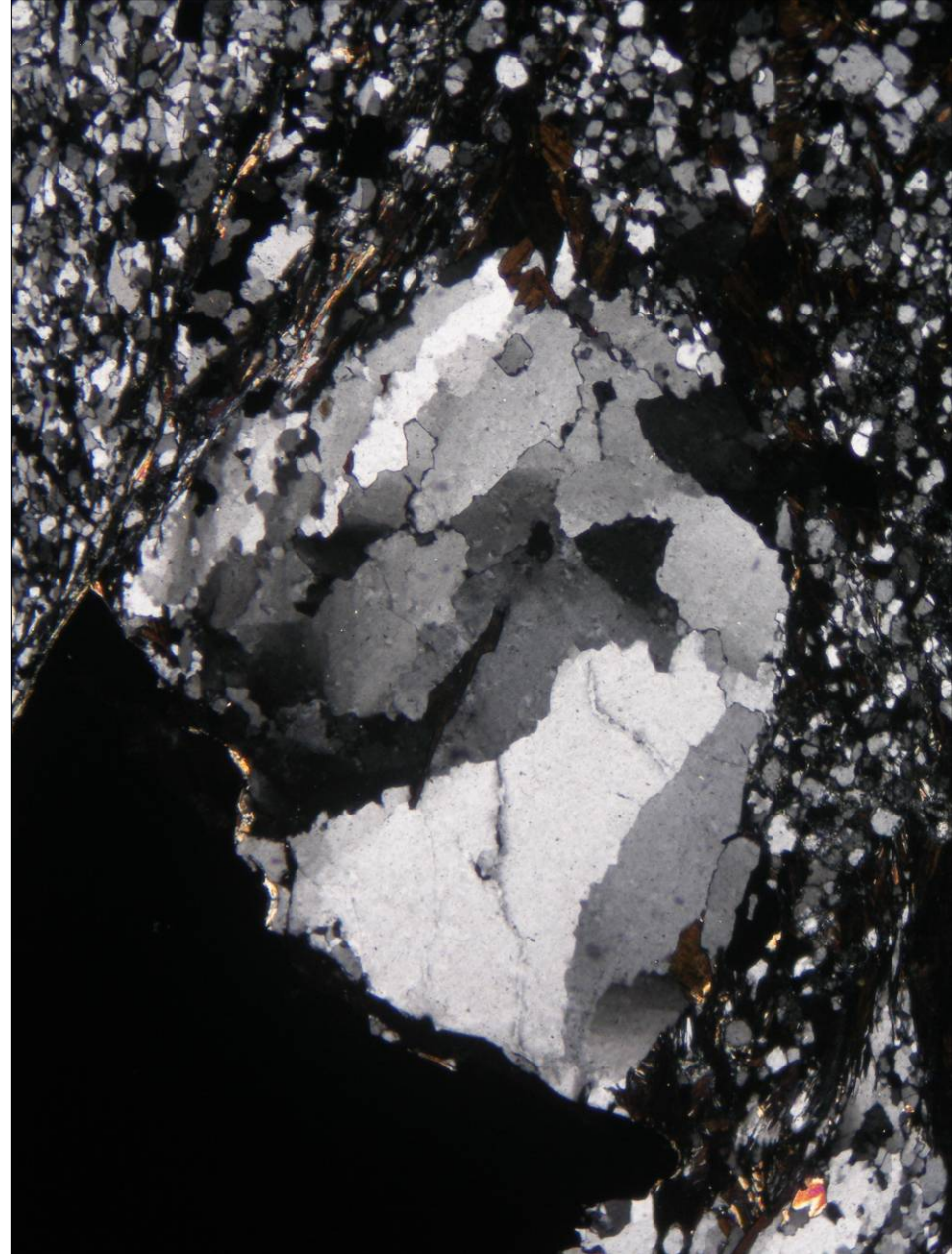
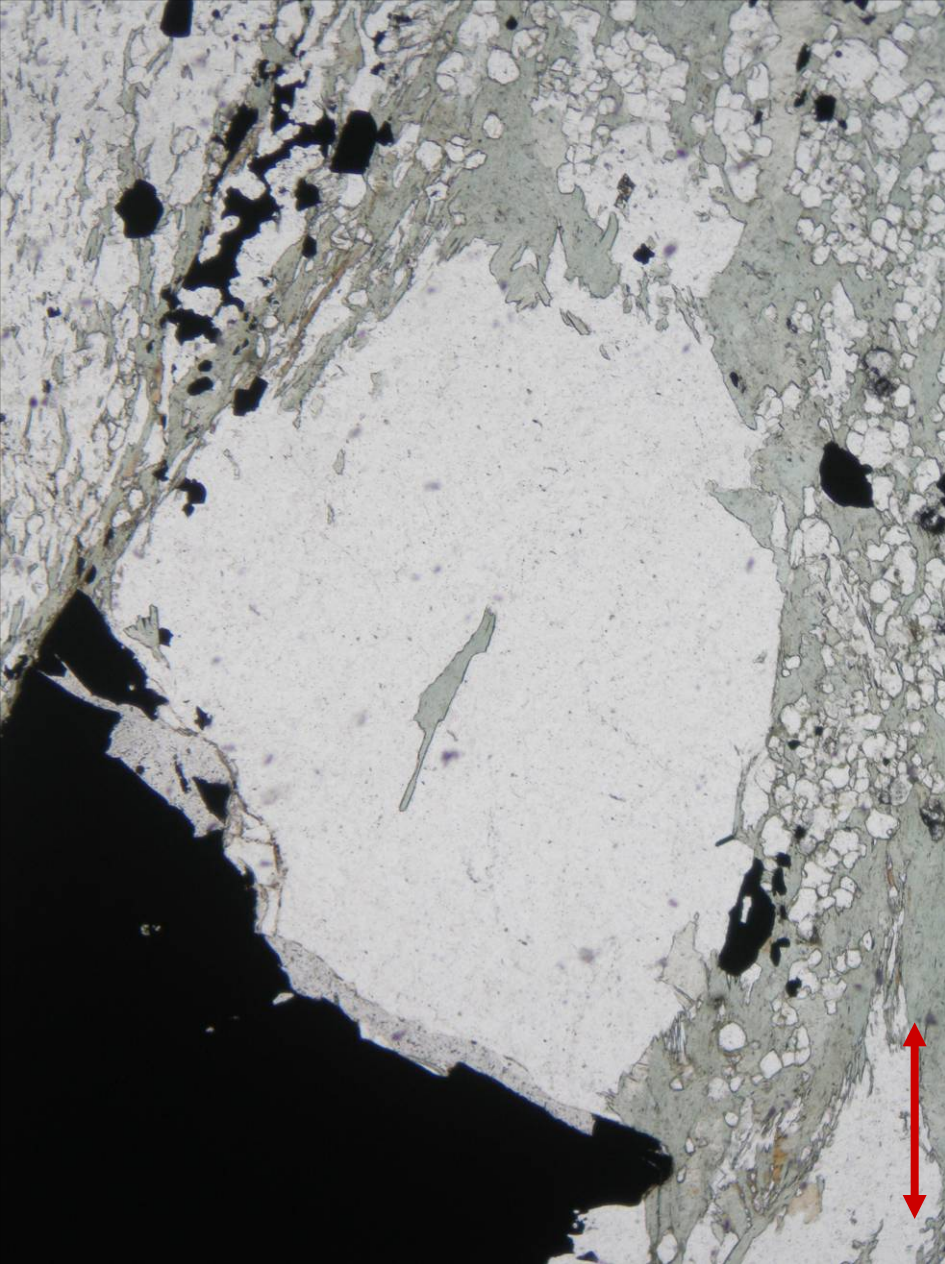
Quartz in granodiorite from Brno-Obřany, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.5 mm. Photo: JiZi.



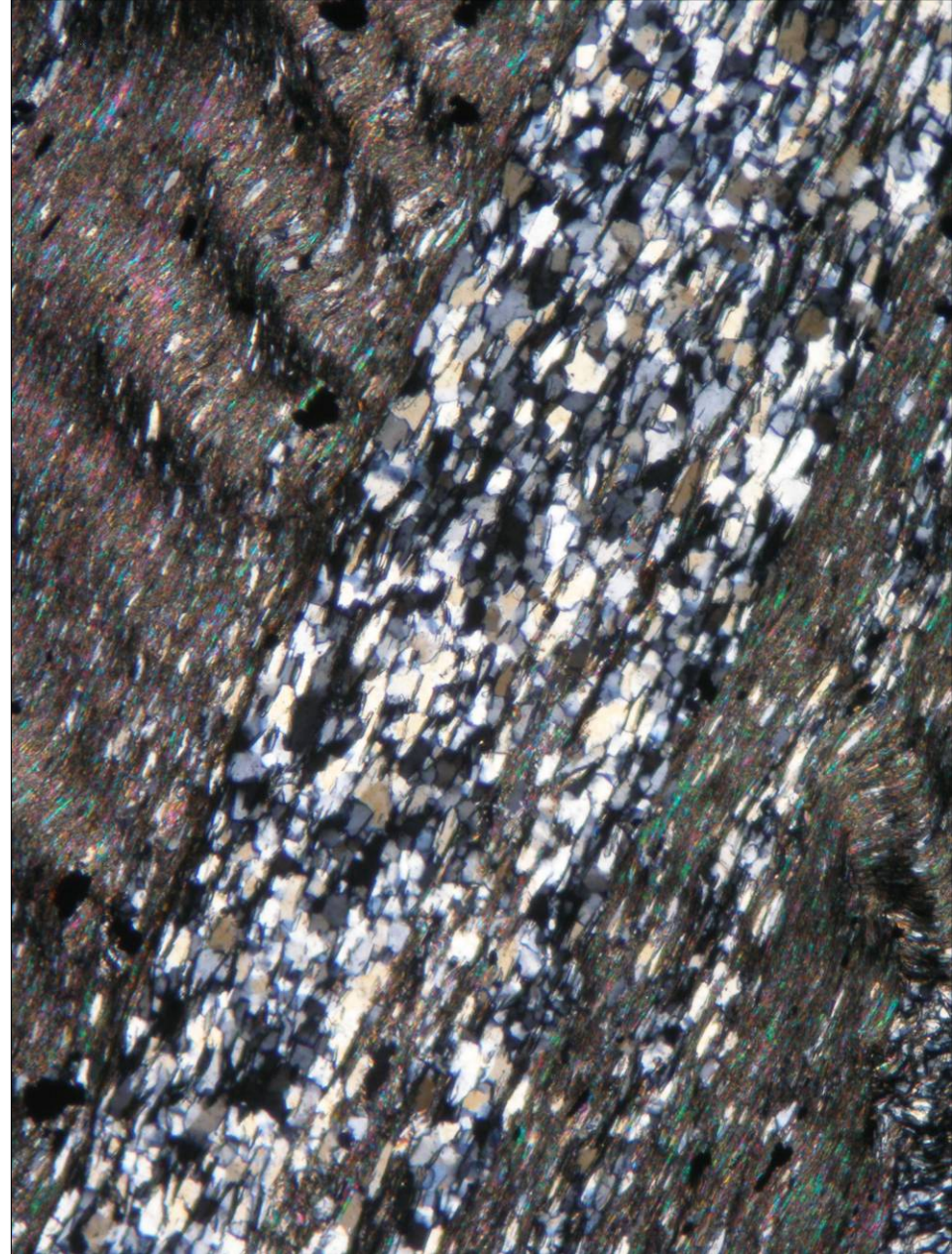
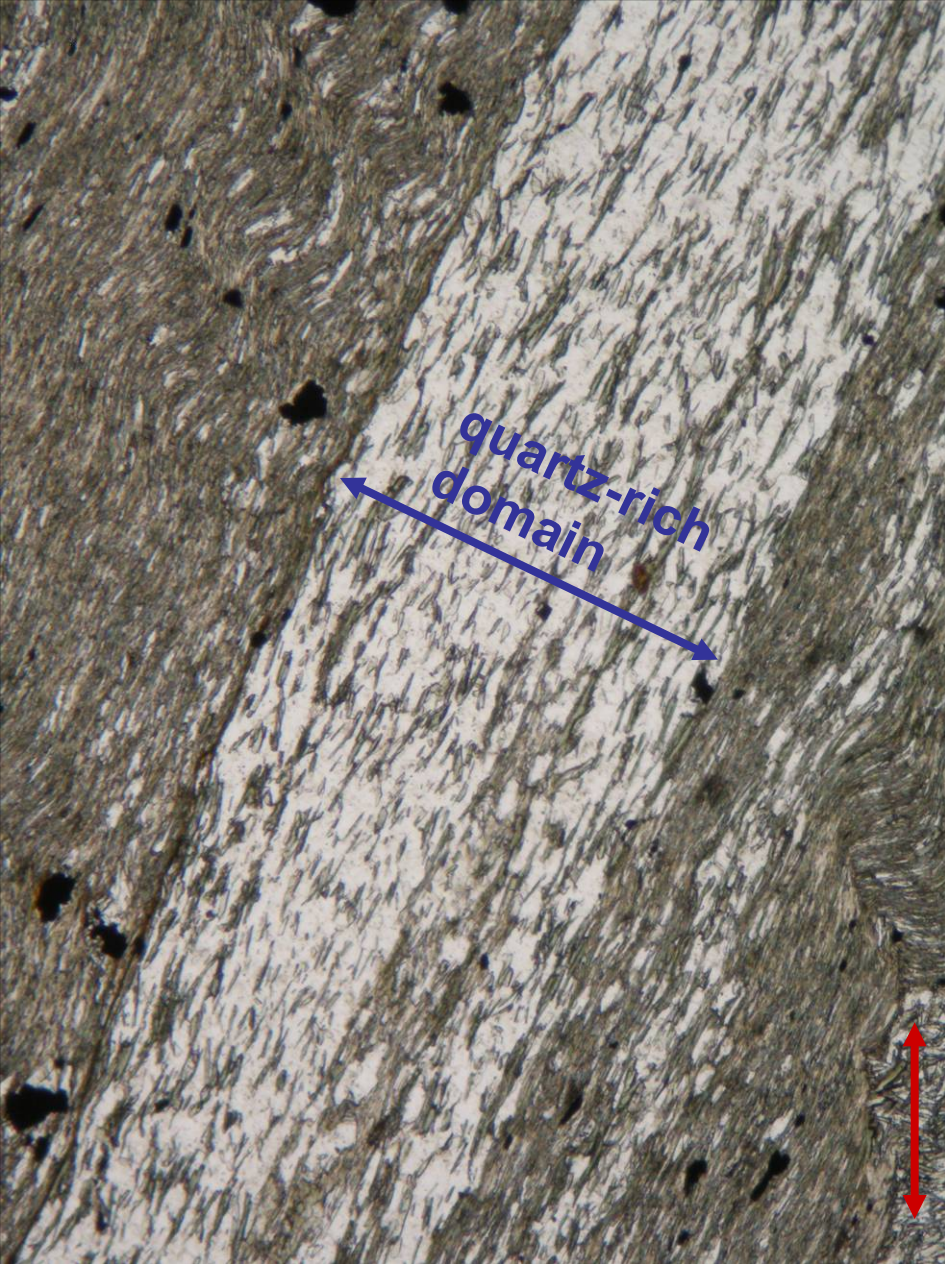
Quartz in quartzite from Zlaté Hory, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



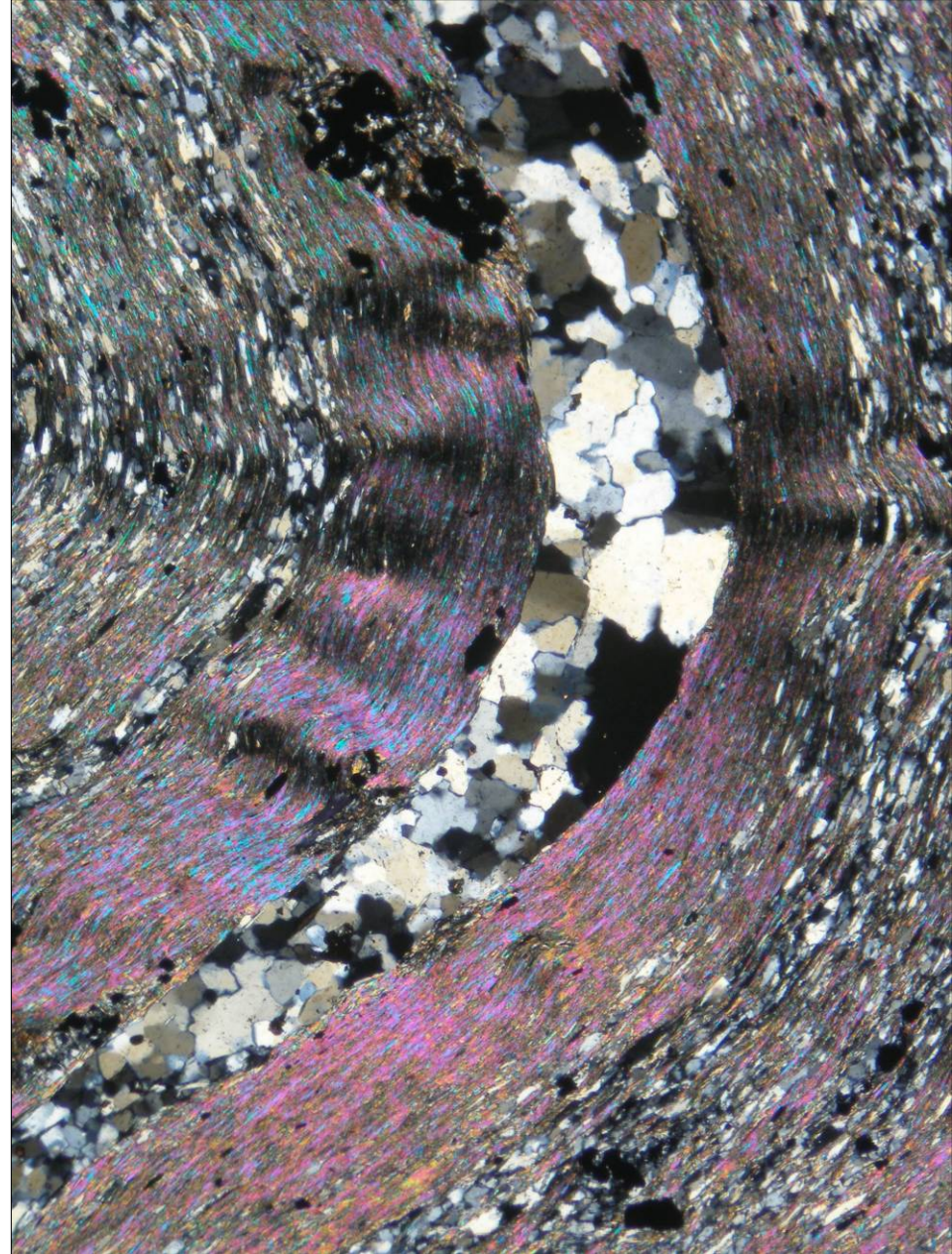
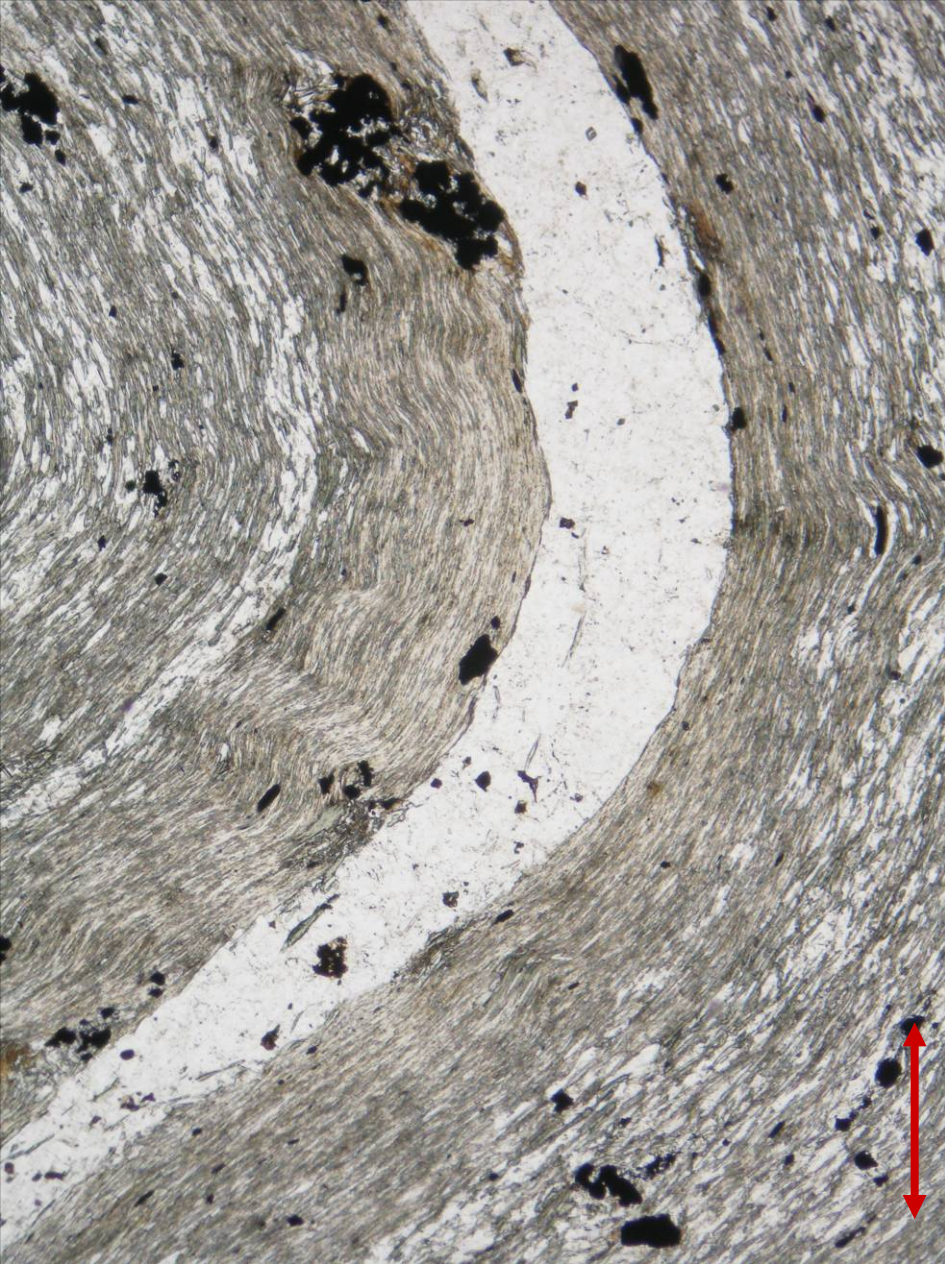
Quartz in quartzite from Zlaté Hory, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



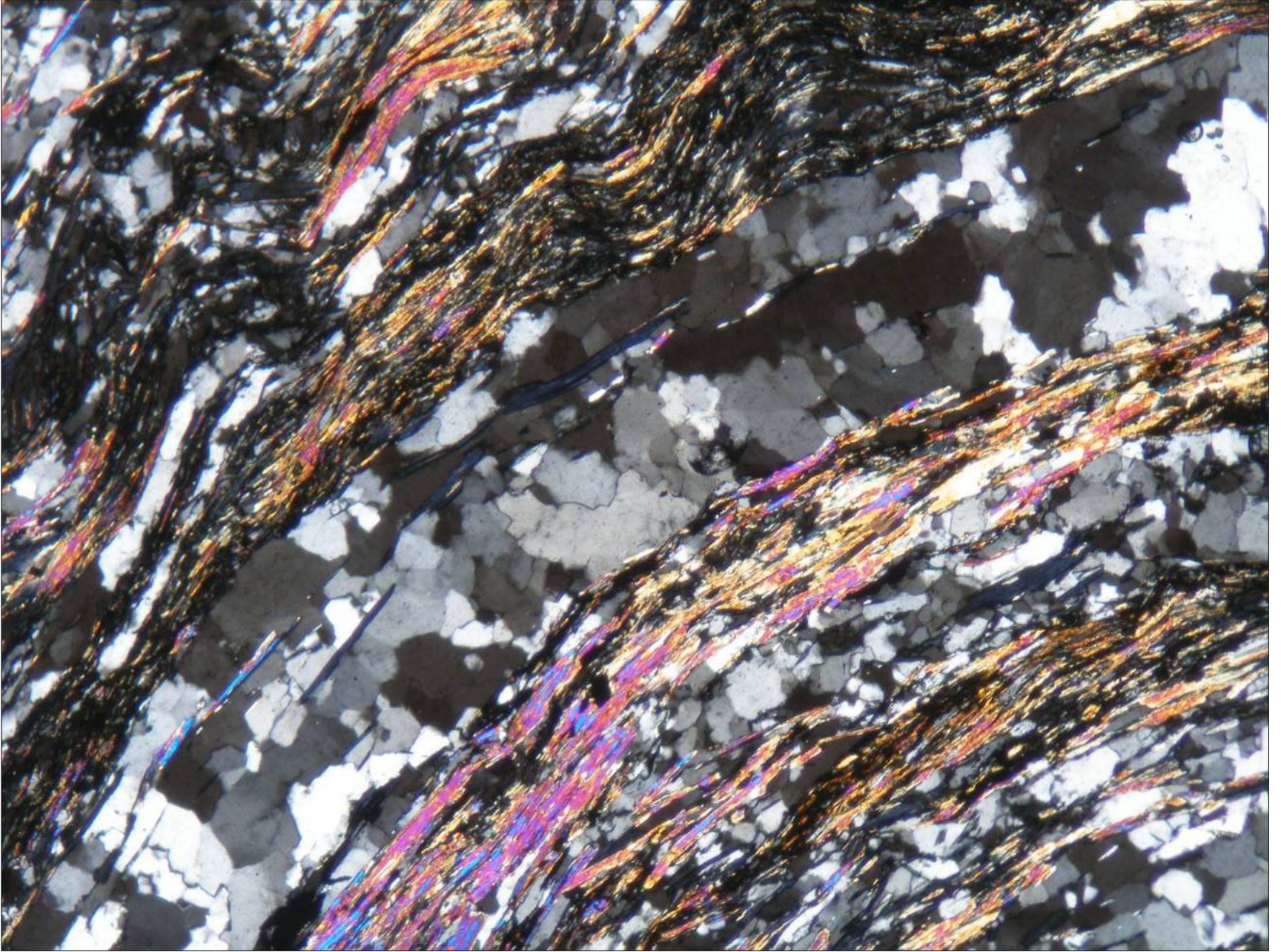
Quartz in quartzite from Zlaté Hory, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



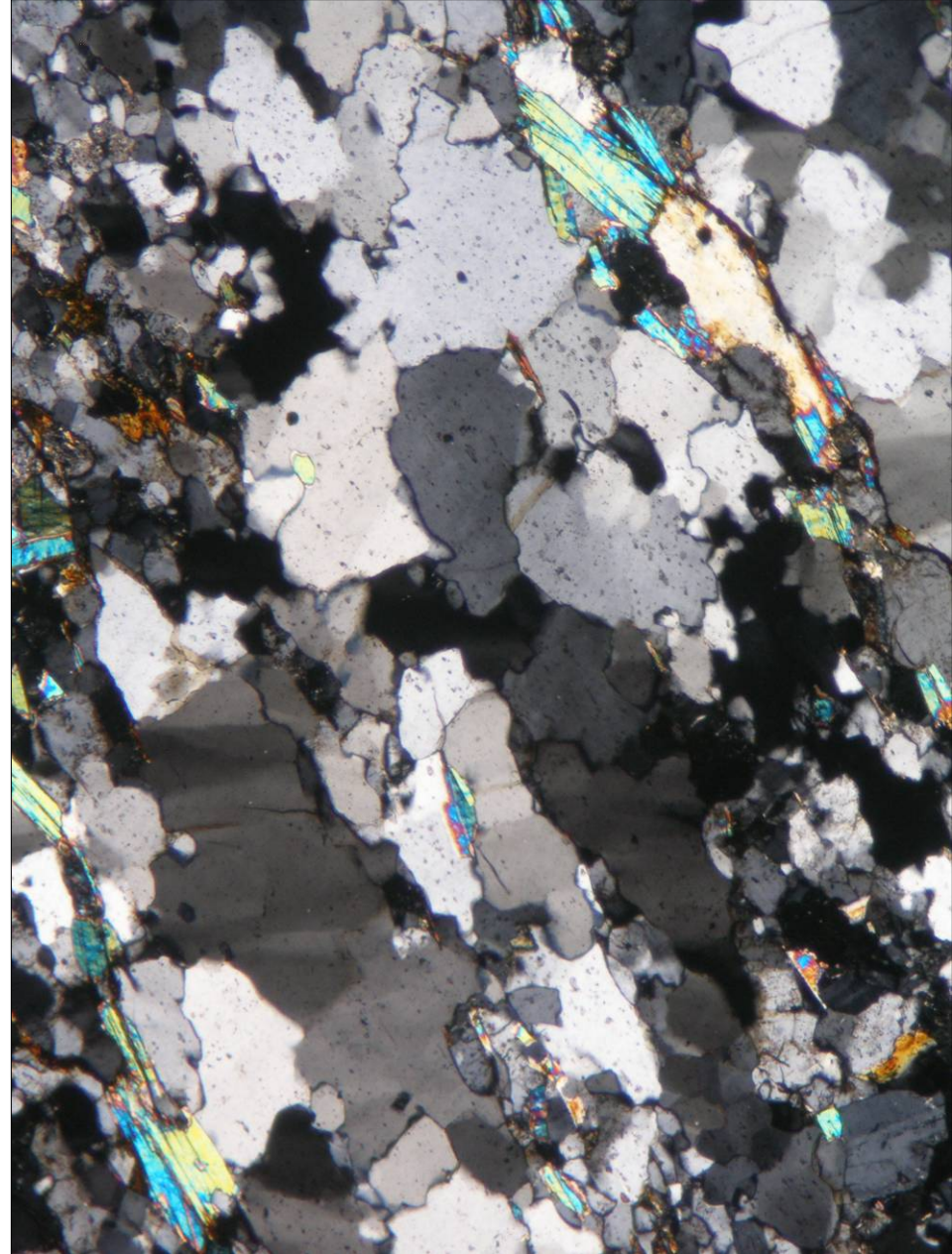
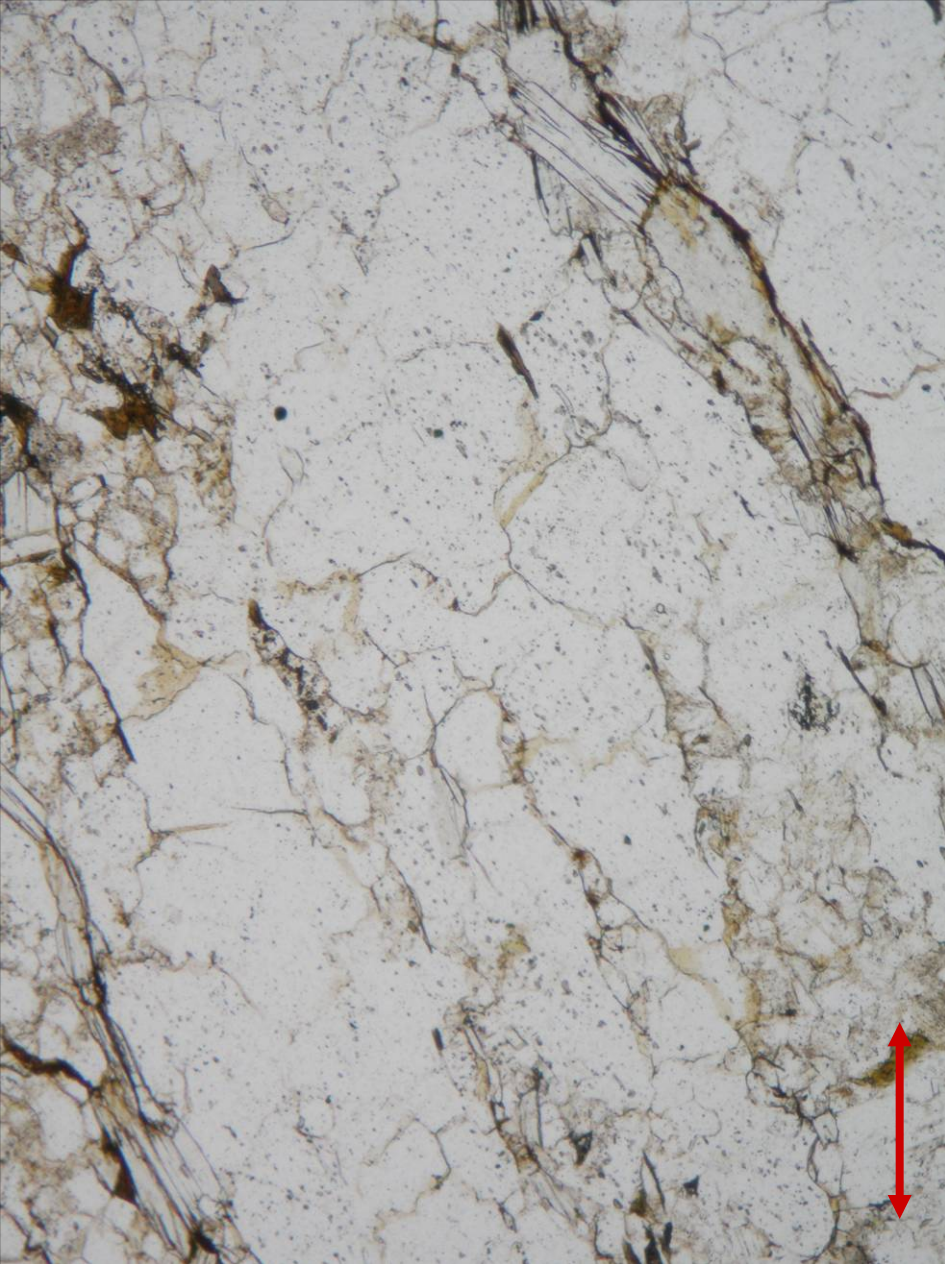
Quartz-rich domain in phyllite from Zlaté Hory, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



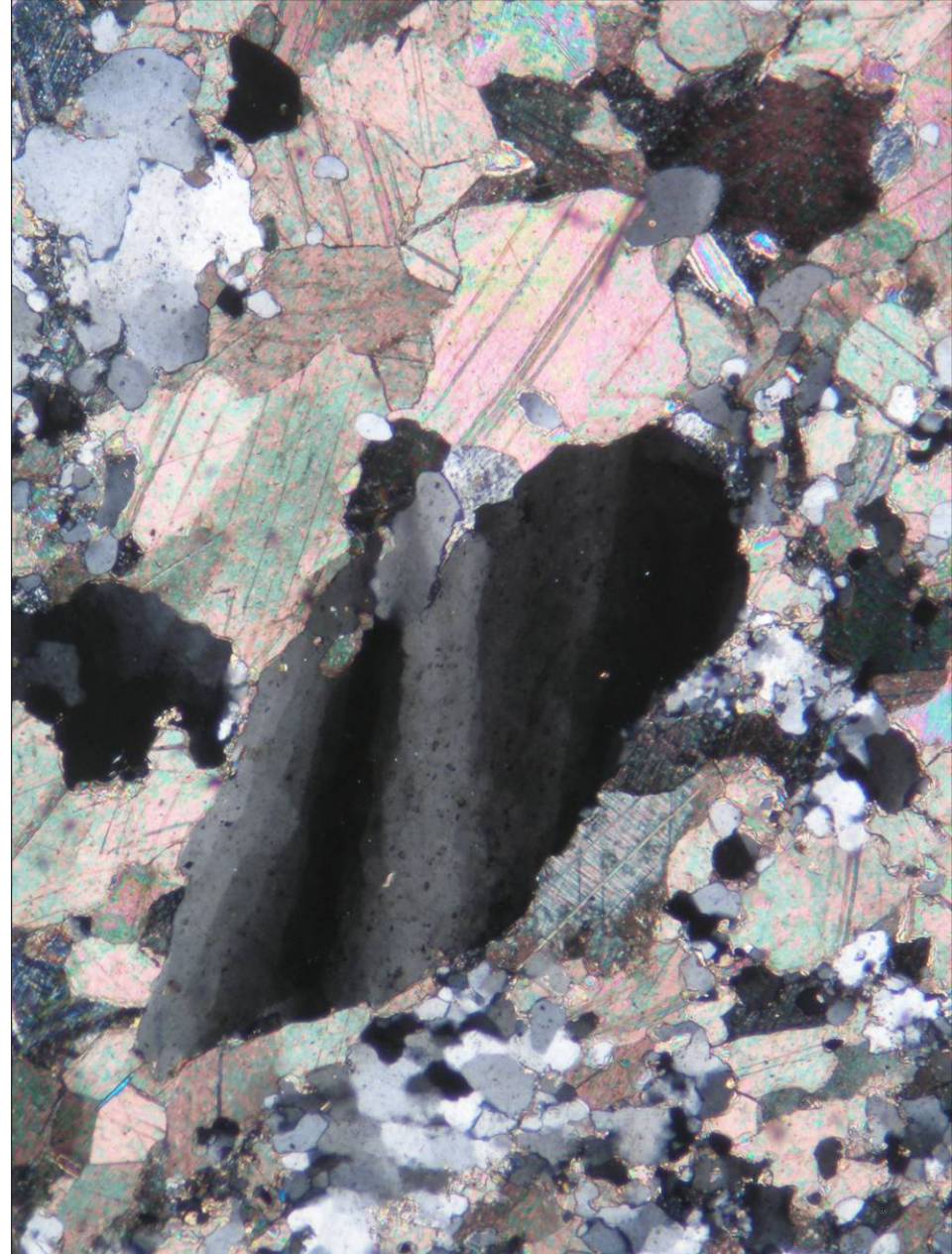
Quartz-rich domain in phyllite from Zlaté Hory, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



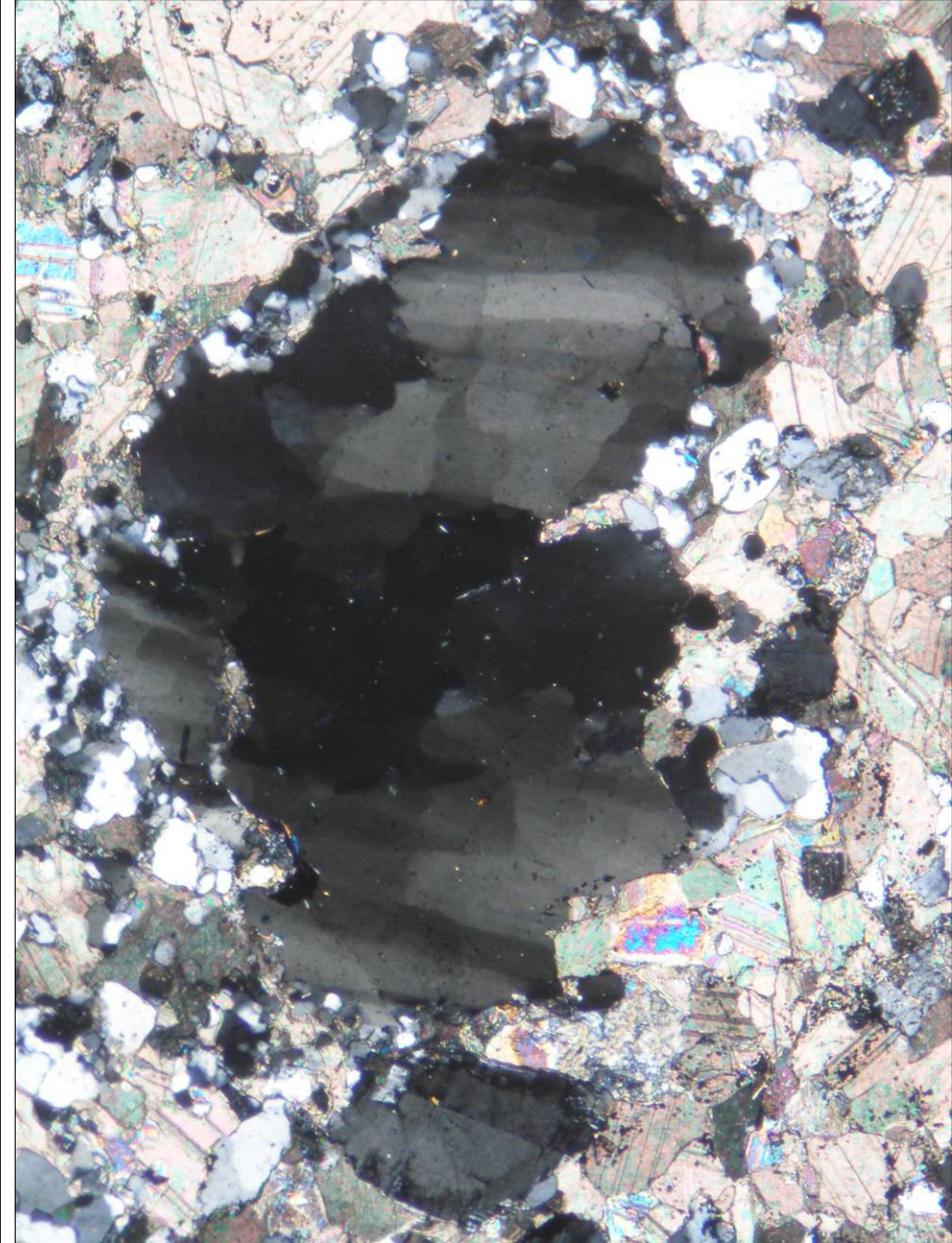
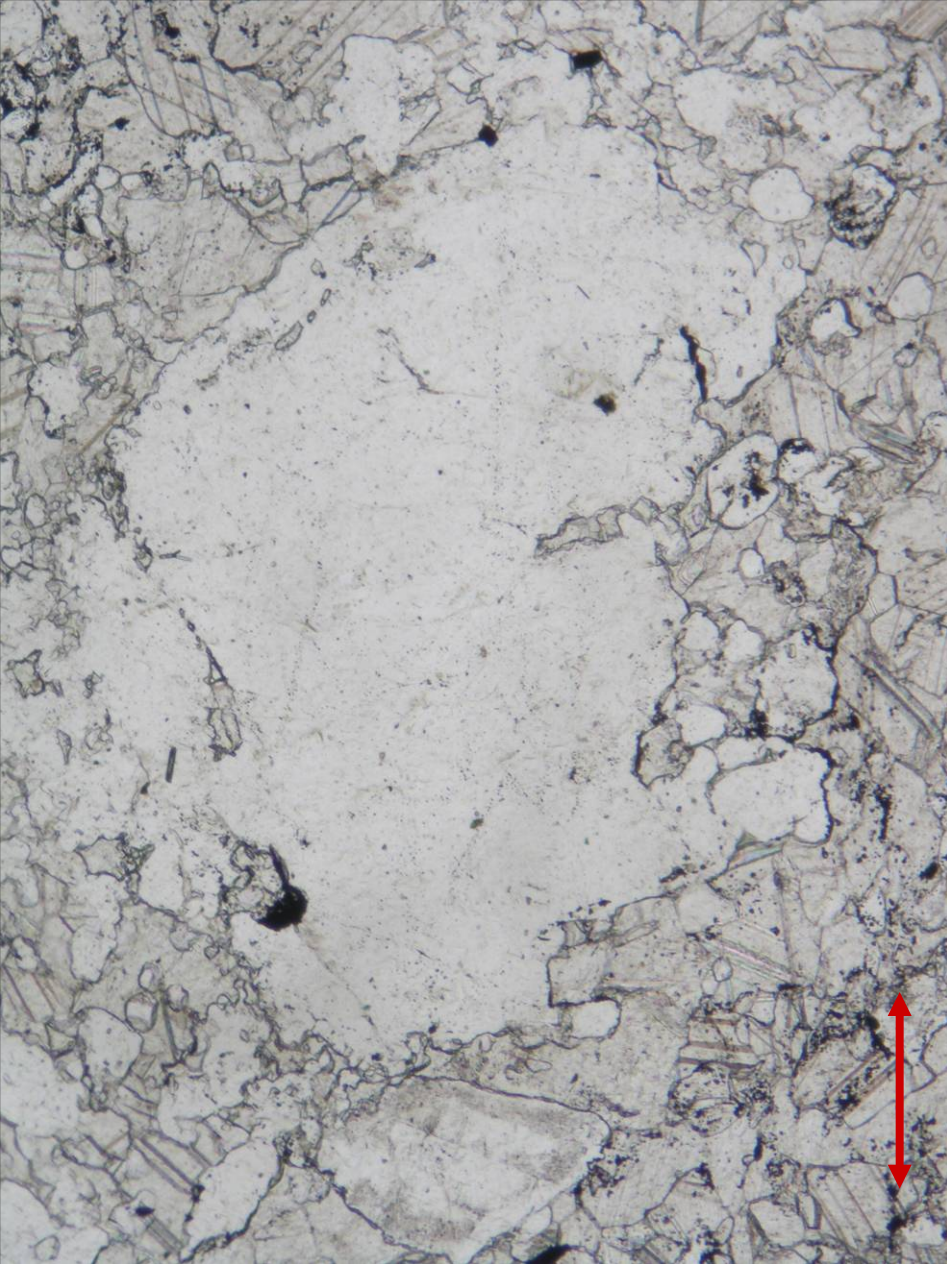
Quartz-rich domain in phyllite from Nový Malín, the Czech Republic; XPL. Field of view is ca. 2.2 mm wide. Photo: JiZi.



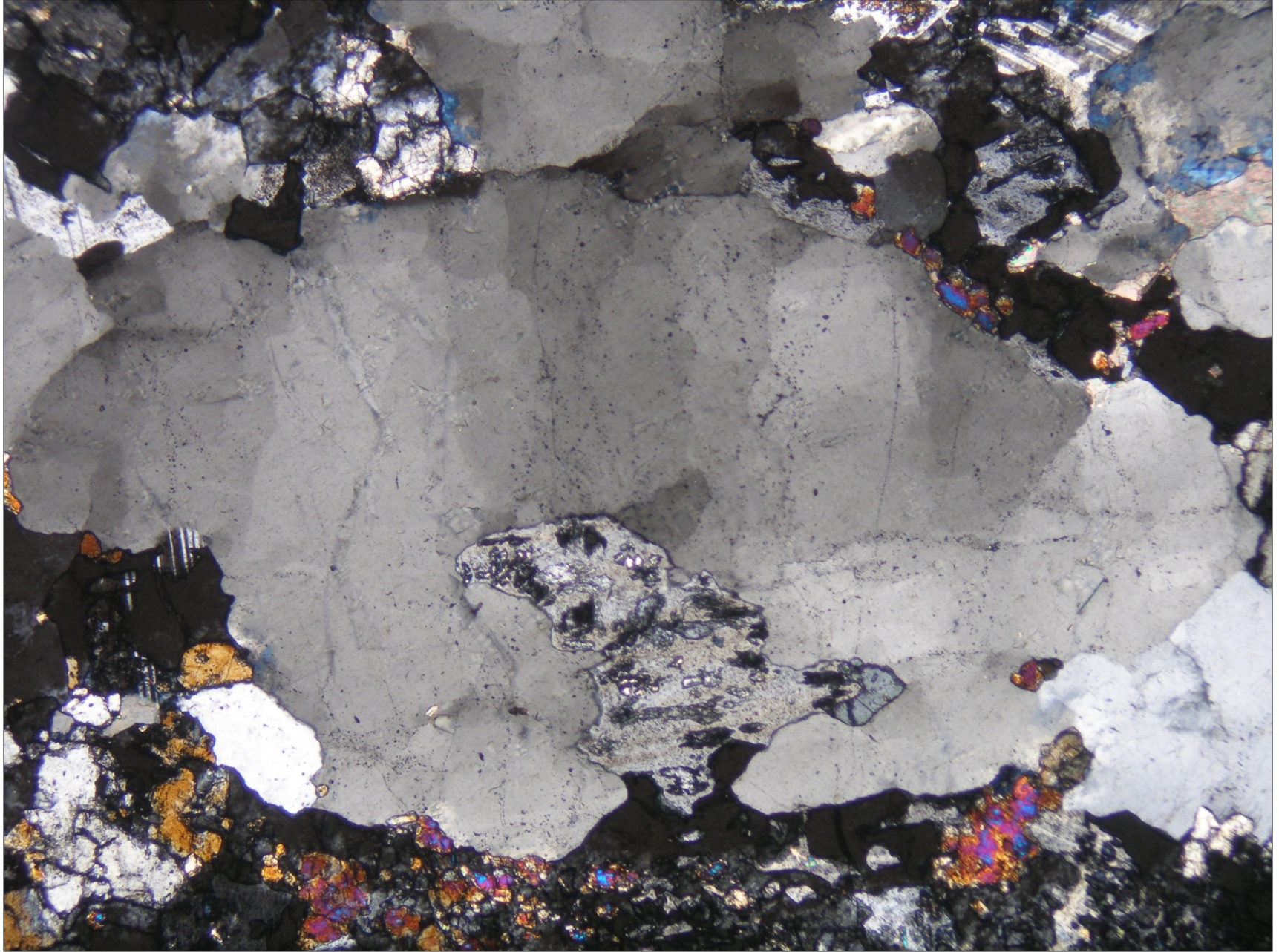
Quartz in gneiss from Lukov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



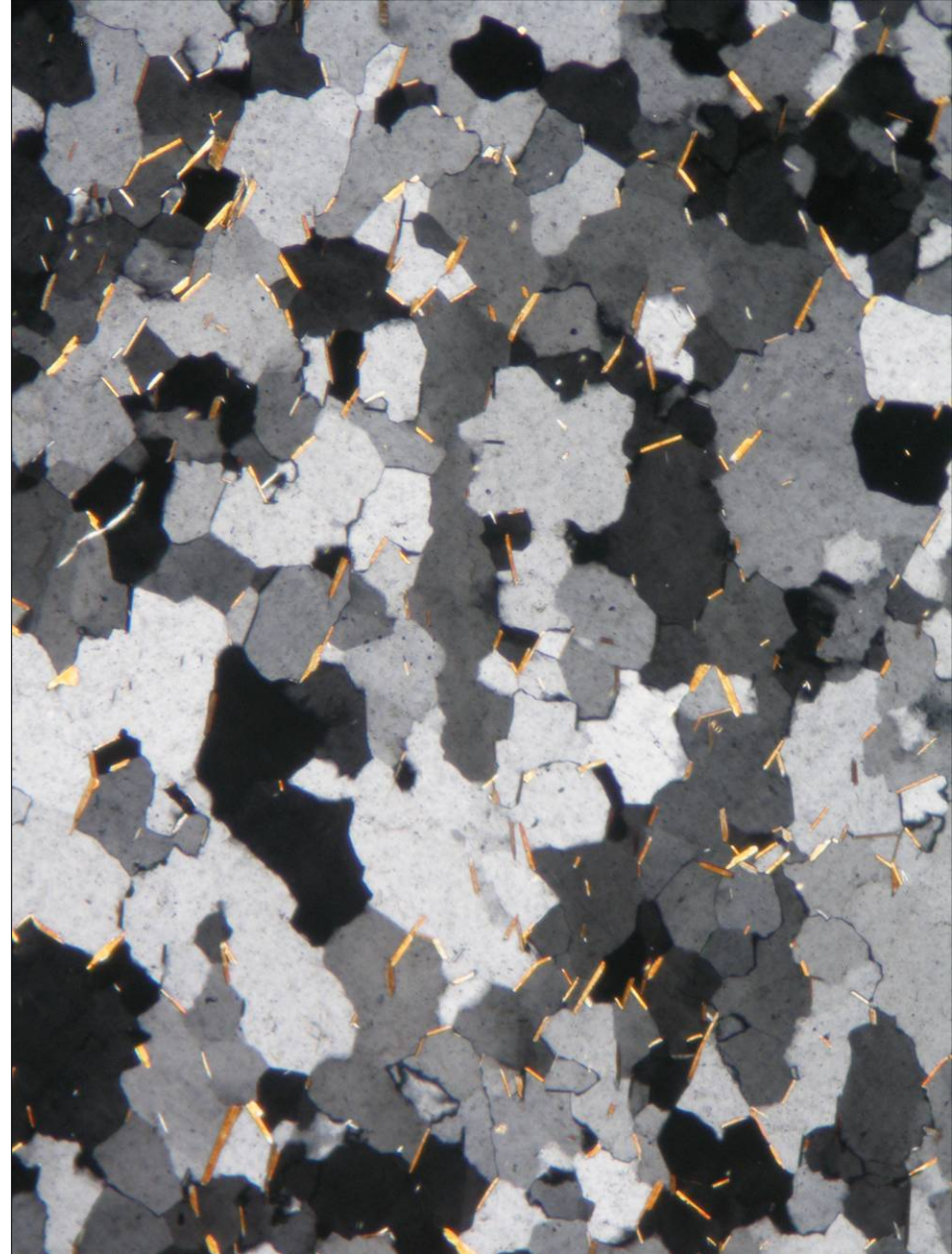
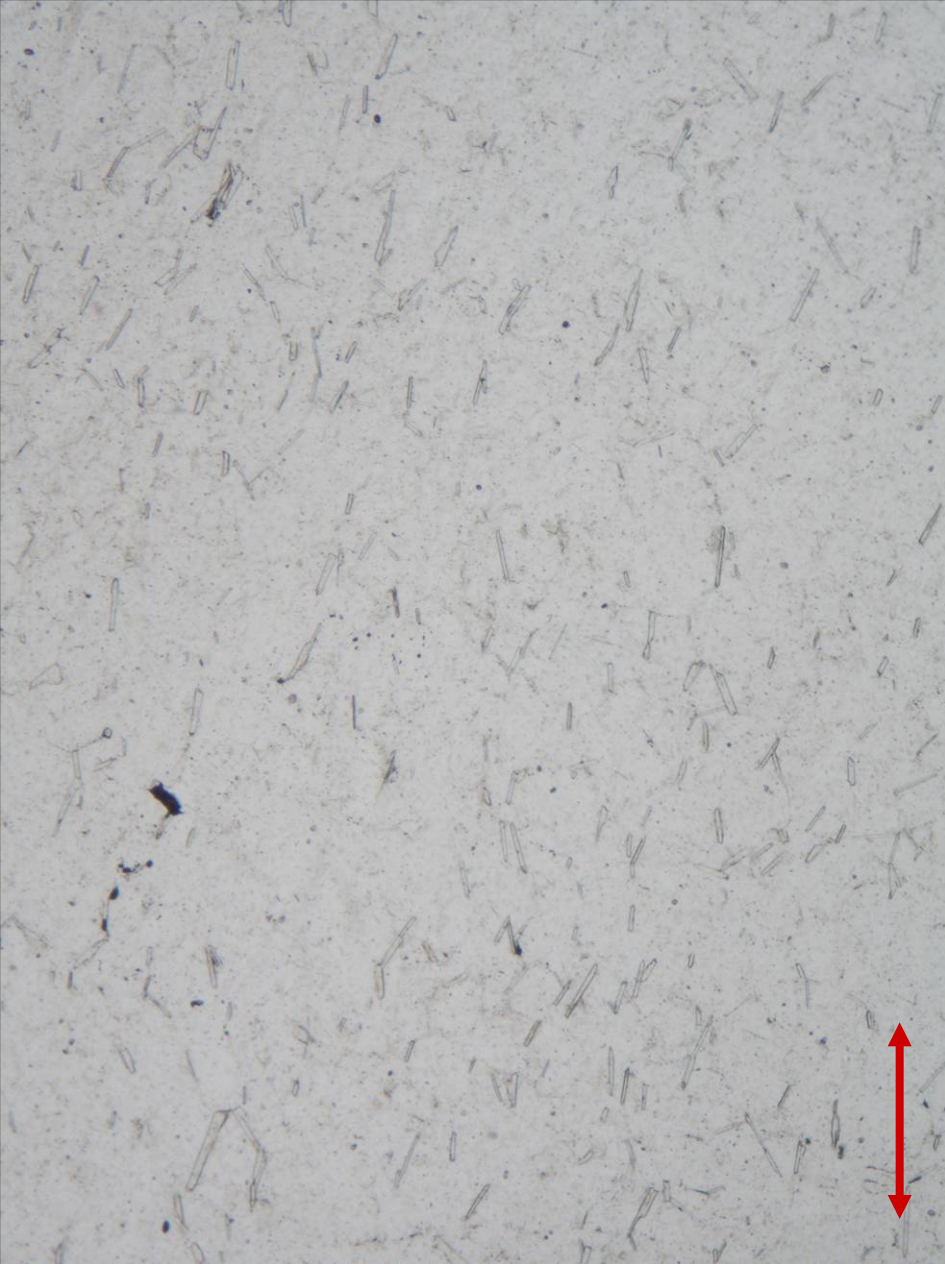
Quartz with laminar undulatory extinction in marble from Heřmanovice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



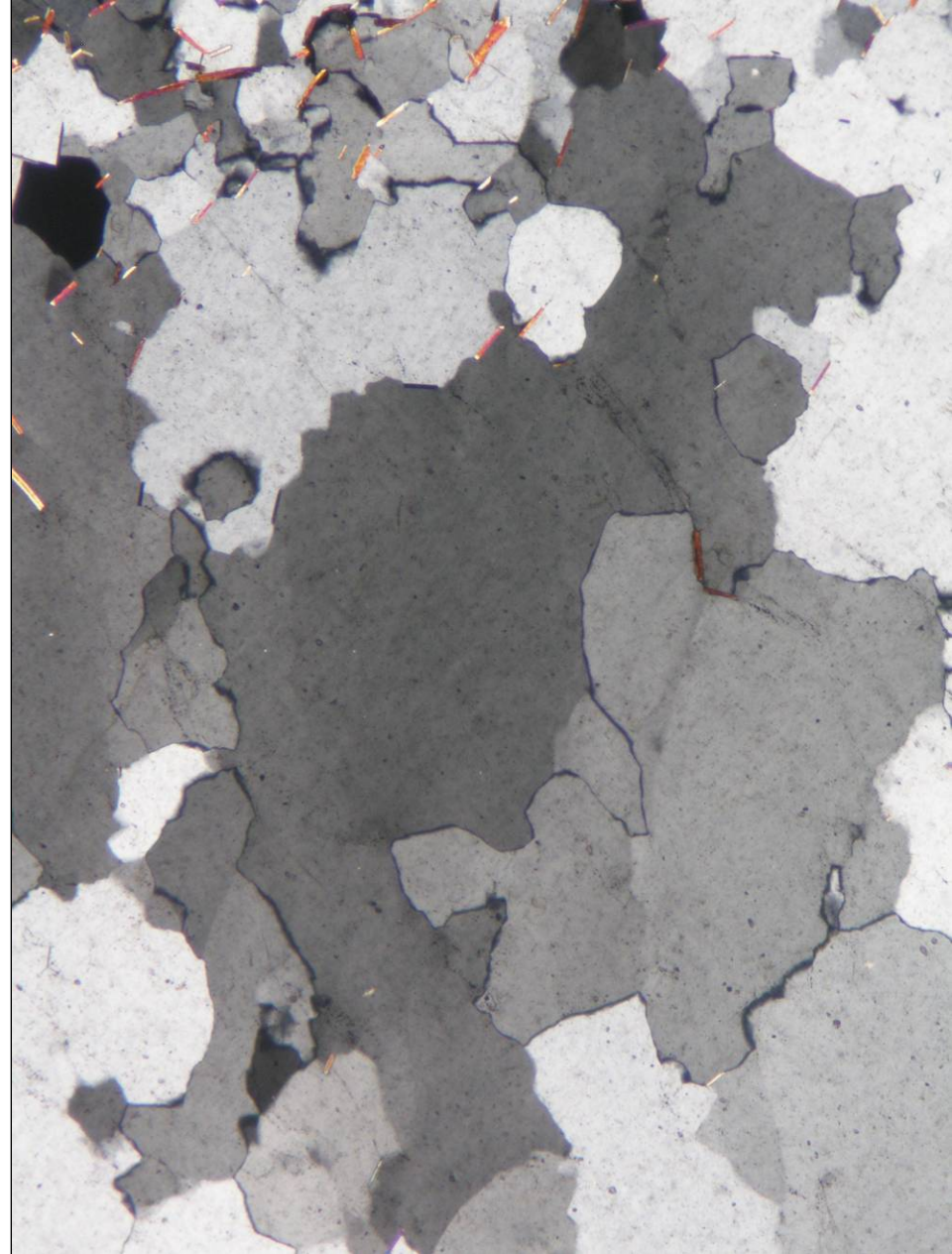
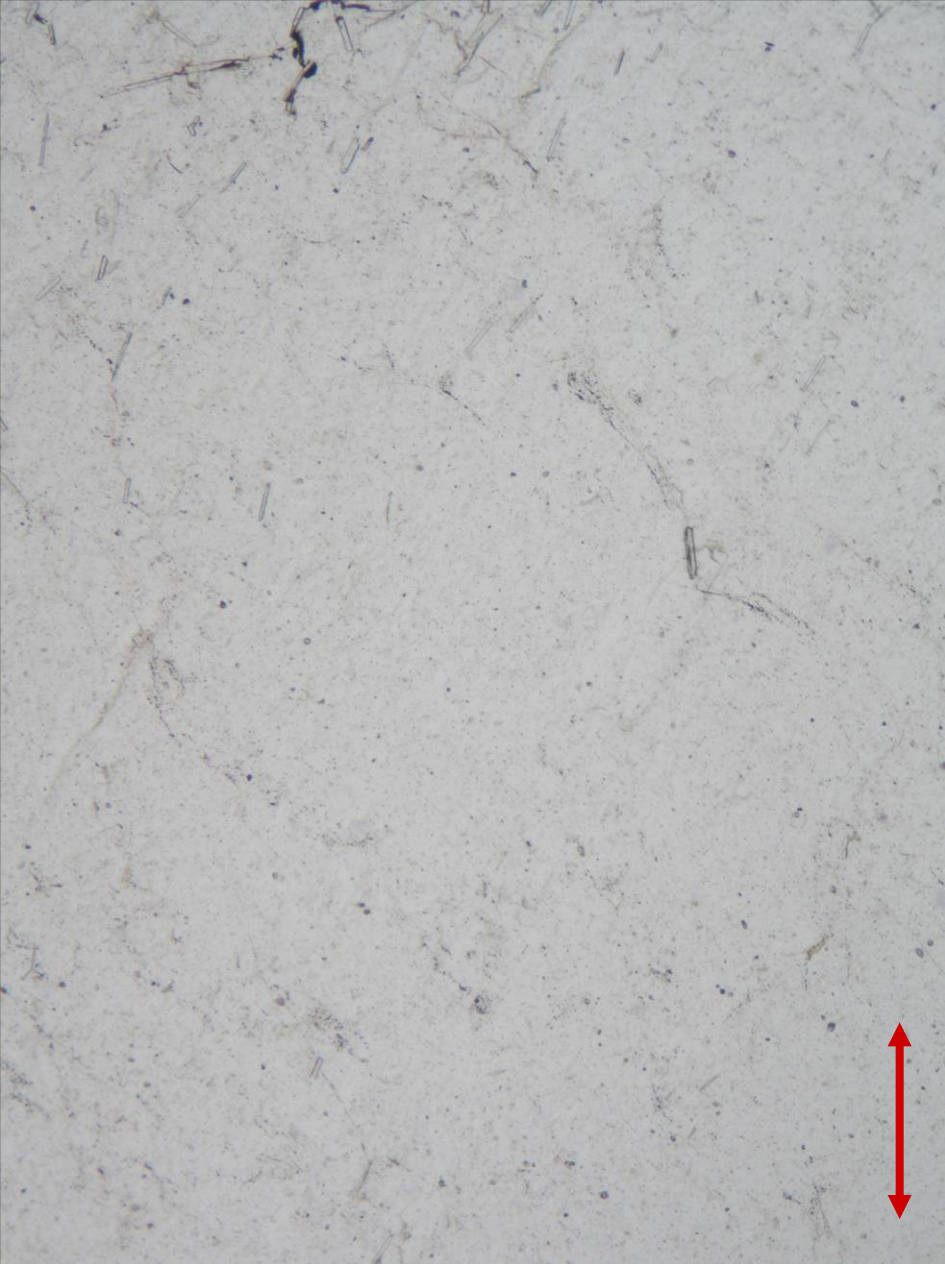
Quartz with laminar undulatory extinction in marble from Heřmanovice, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.6 mm. Photo: JiZi.



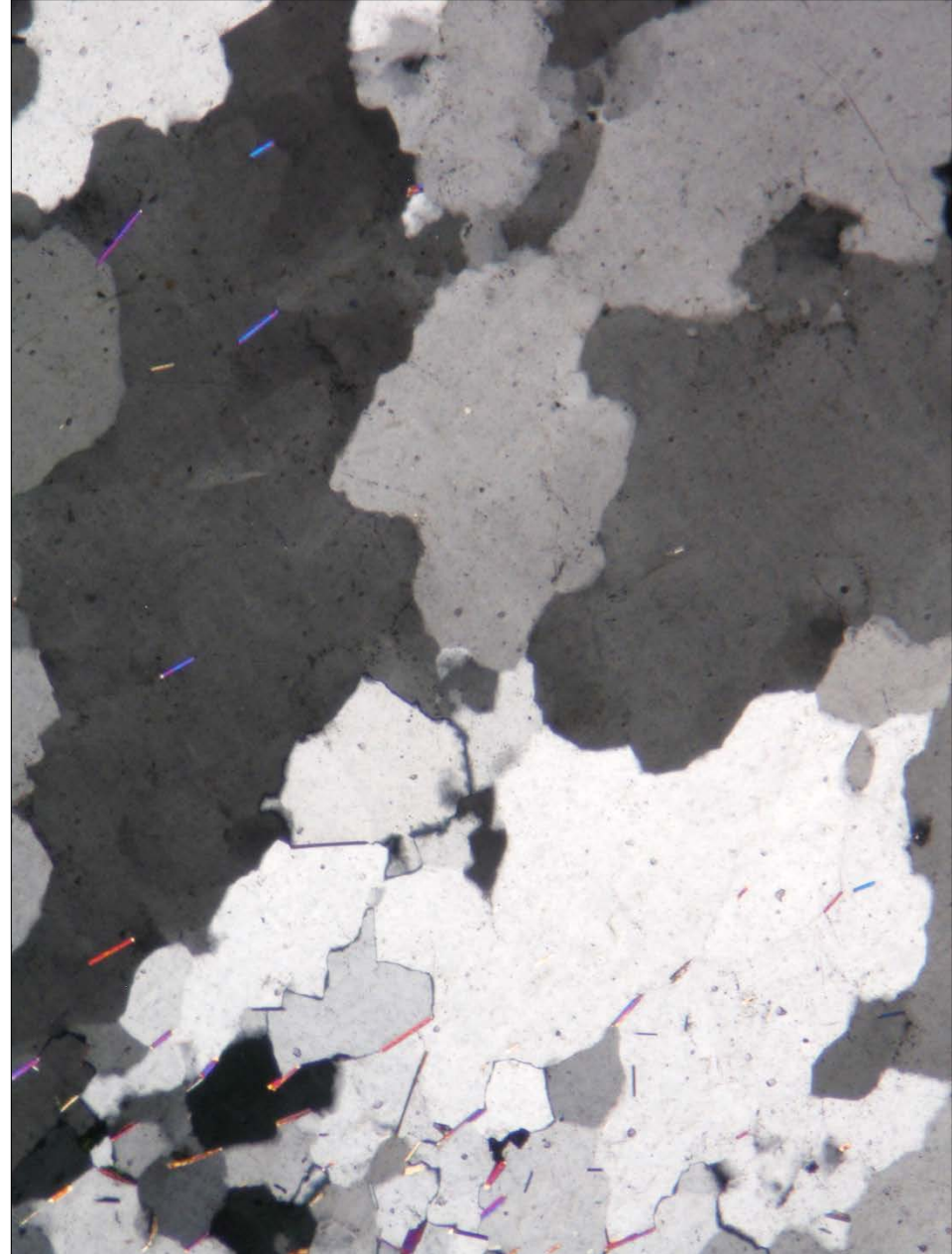
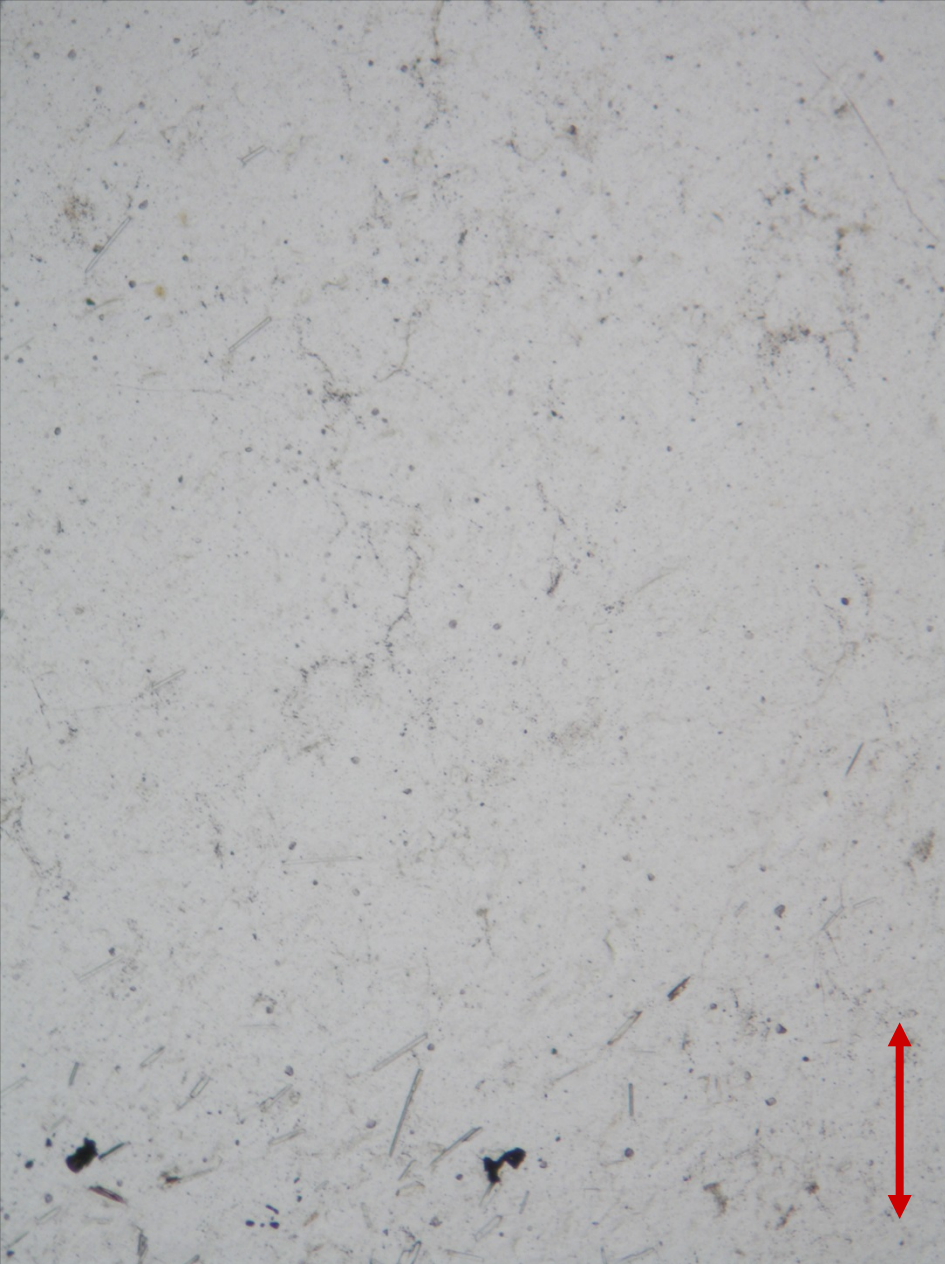
Undulatory quartz in contact skarn from Žulová, the Czech Republic; XPL. Field of view is ca. 2.3 mm wide. Photo: JiZi.



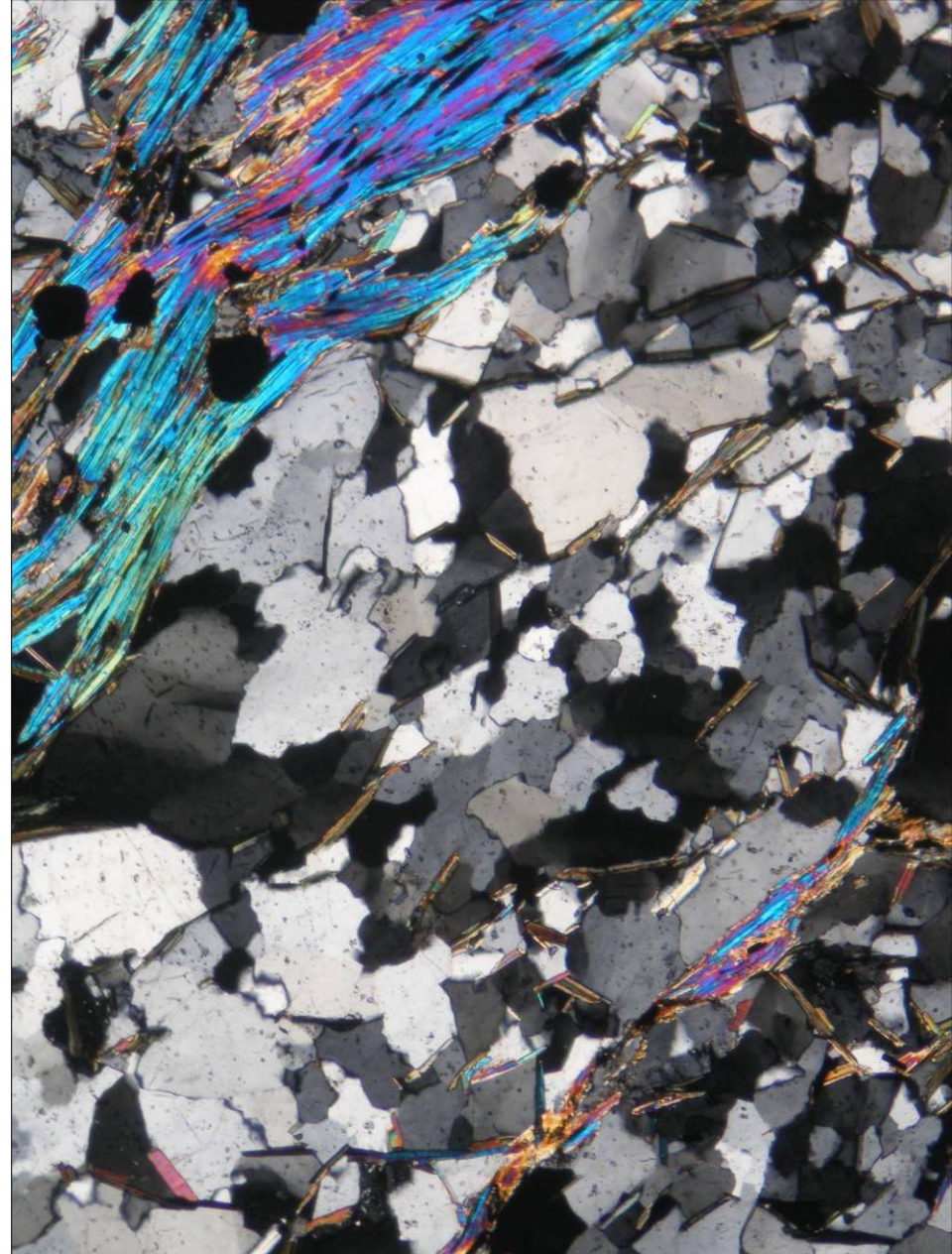
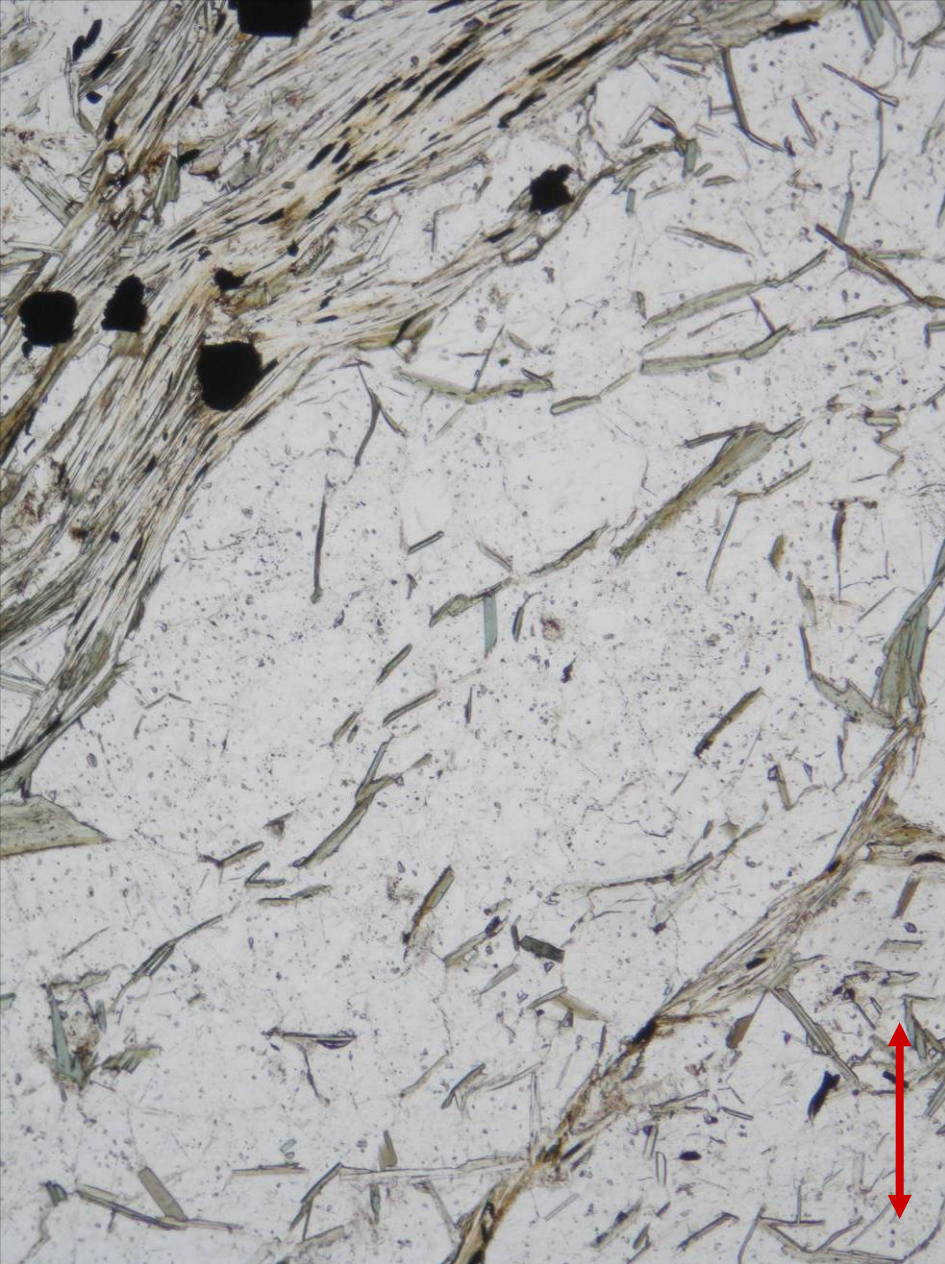
Quartz and muscovite in quartzite from Petrov nad Desnou, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



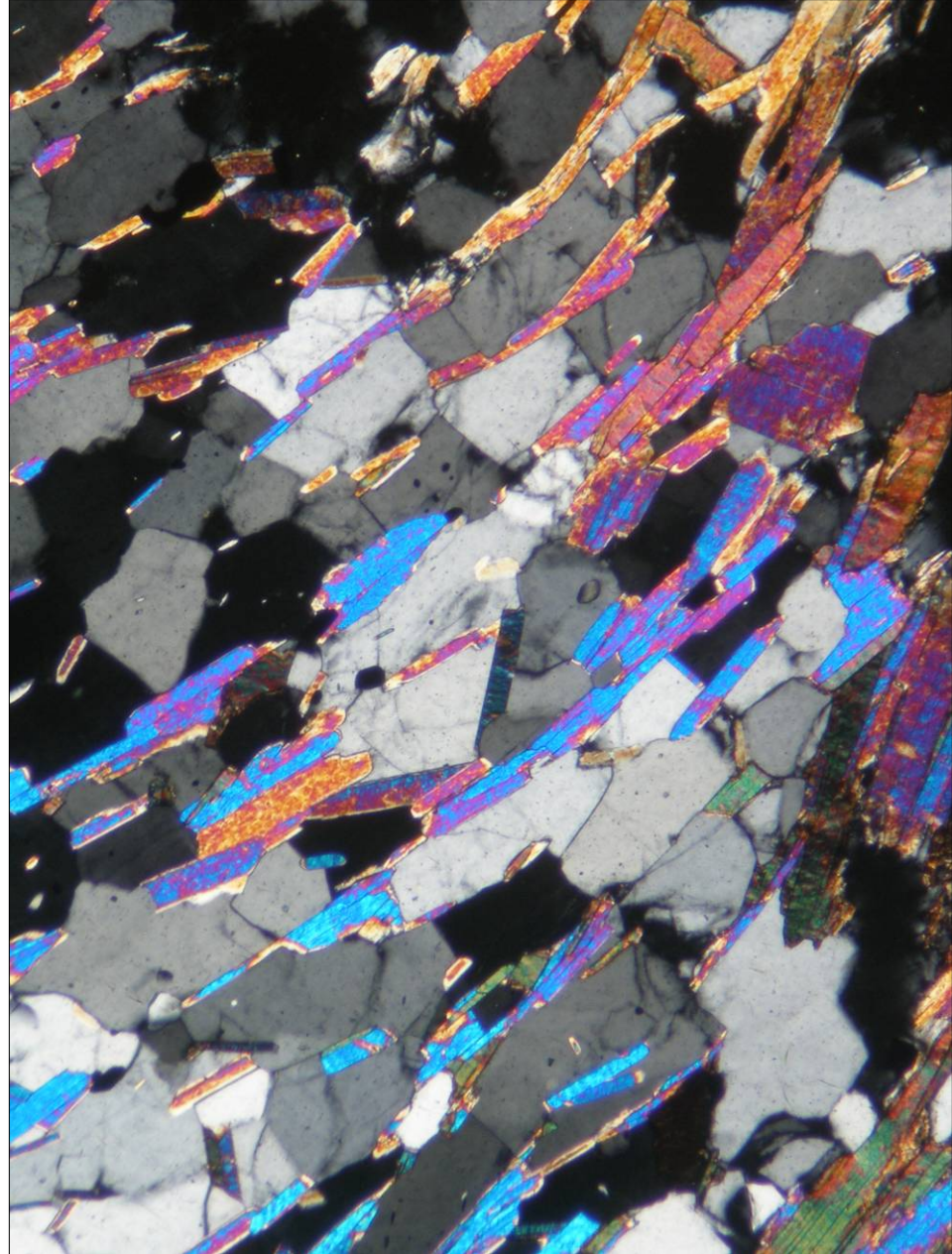
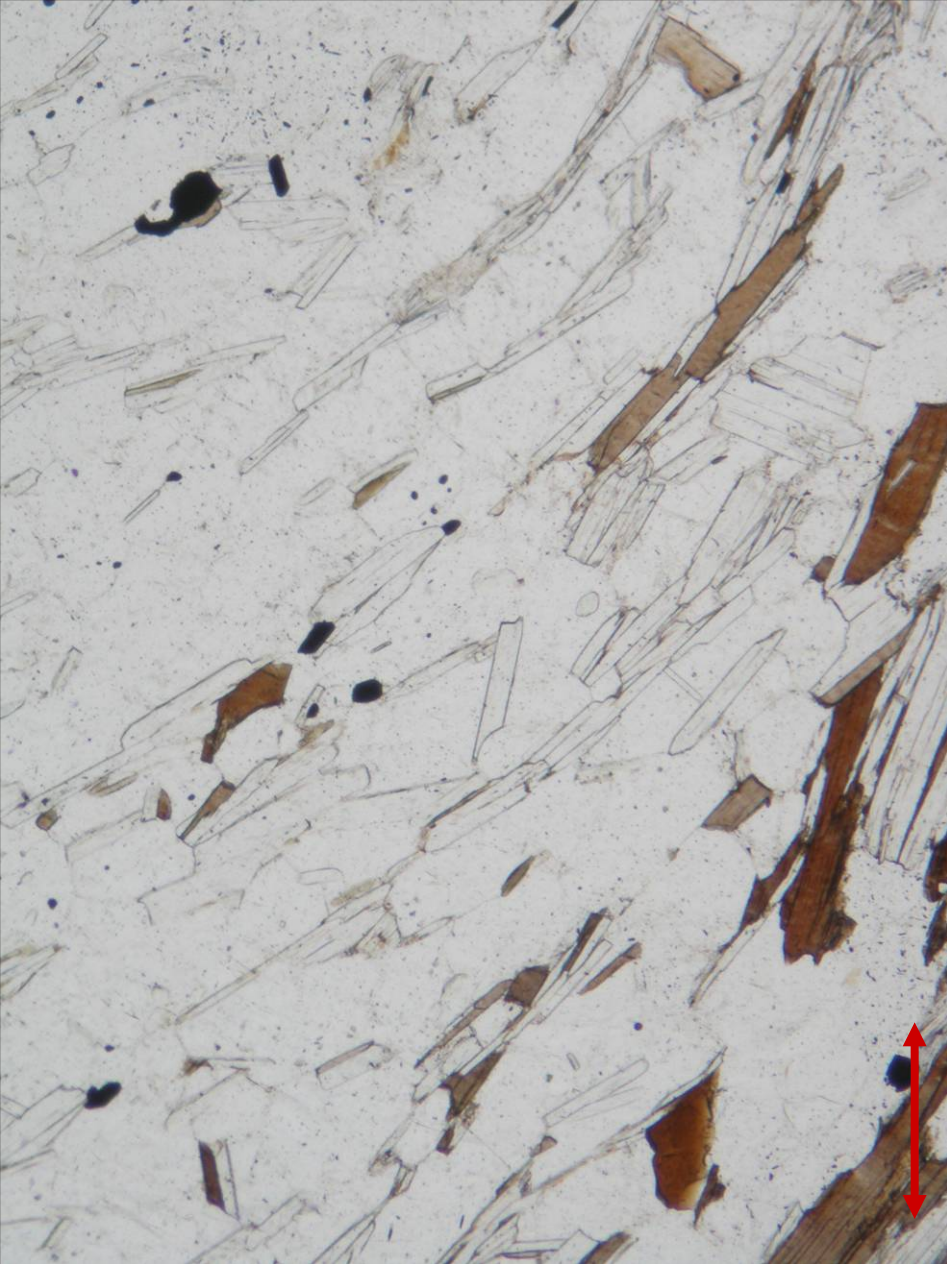
Quartz and muscovite in quartzite from Petrov nad Desnou, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



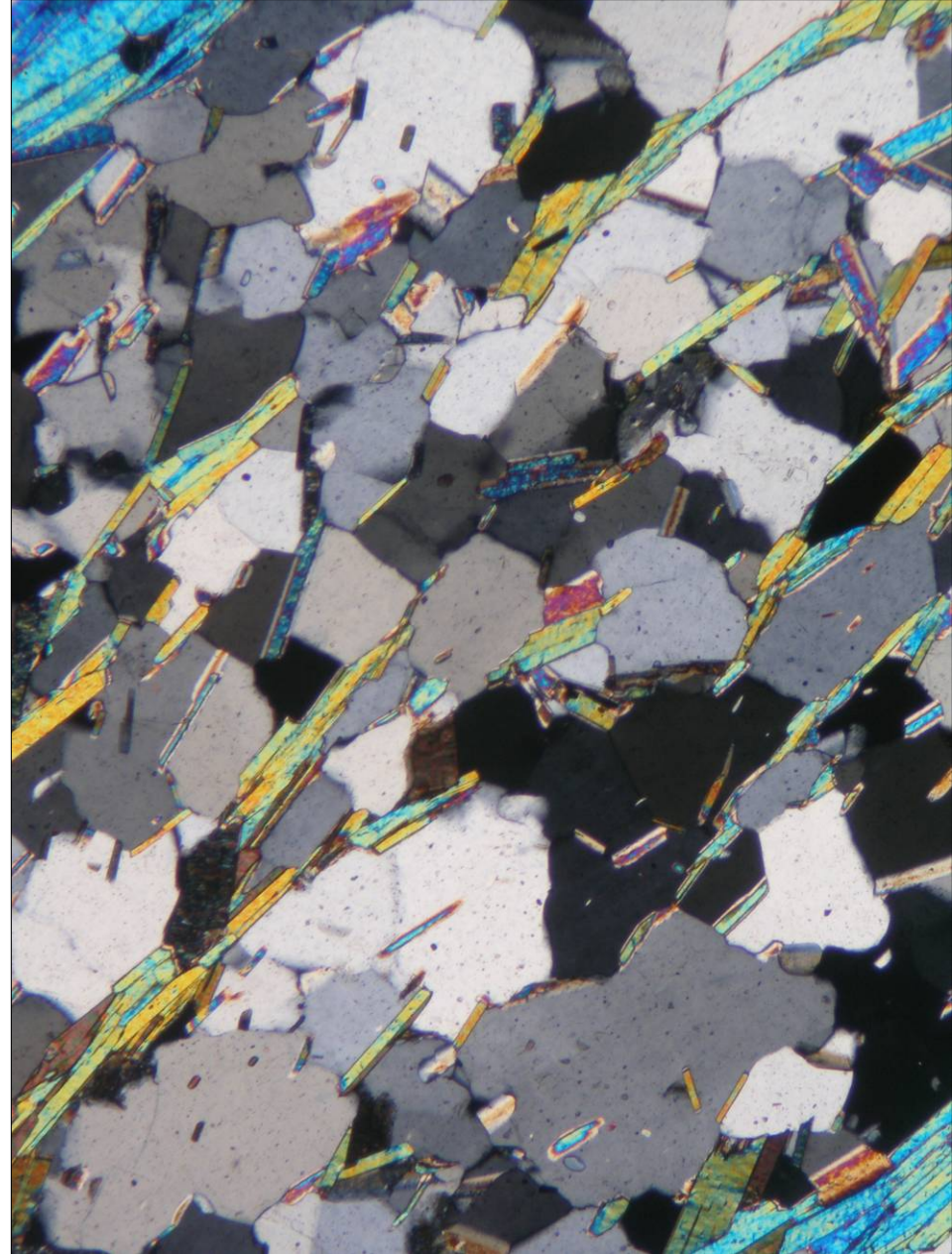
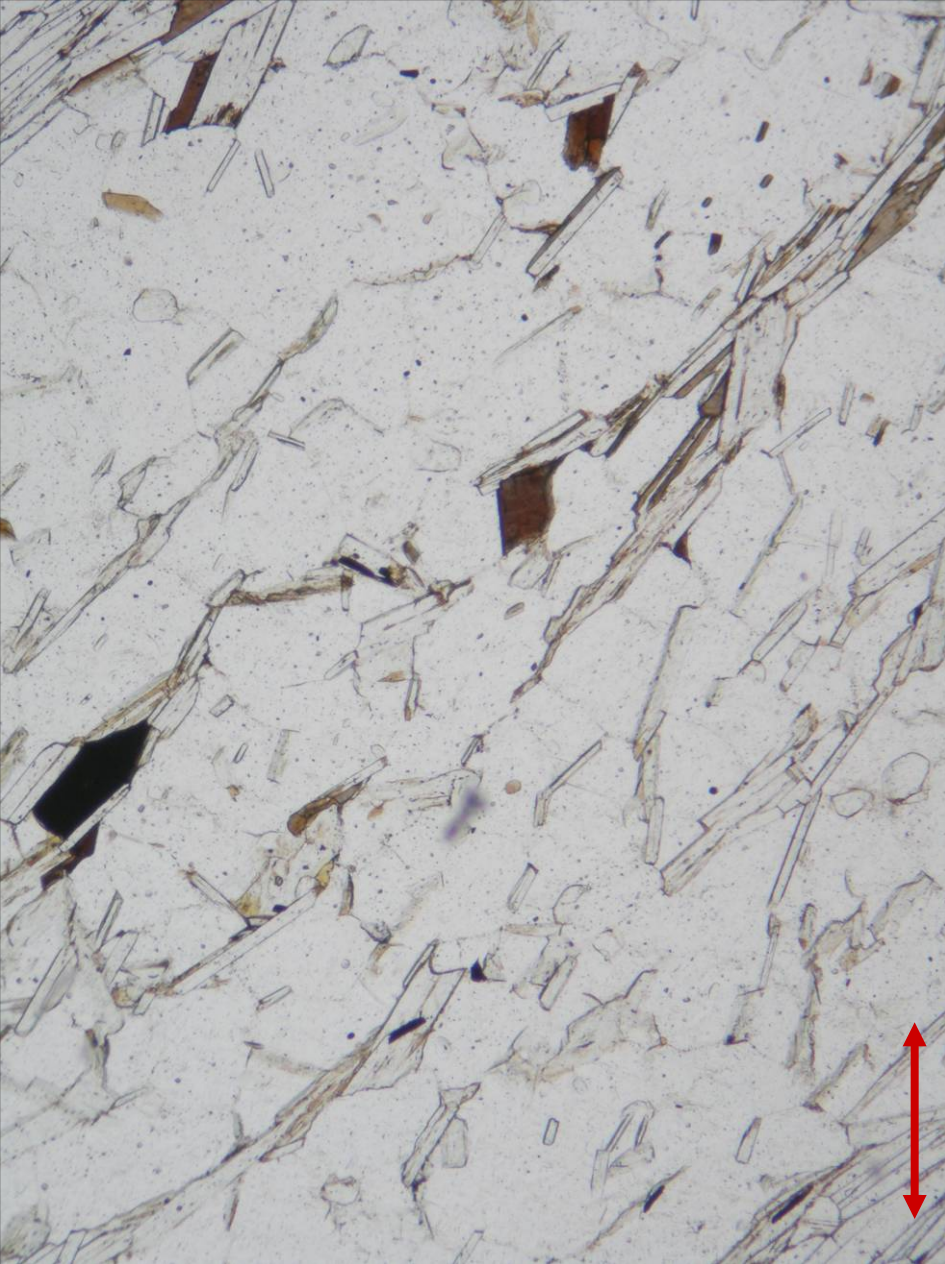
Quartz and muscovite in quartzite from Petrov nad Desnou, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.



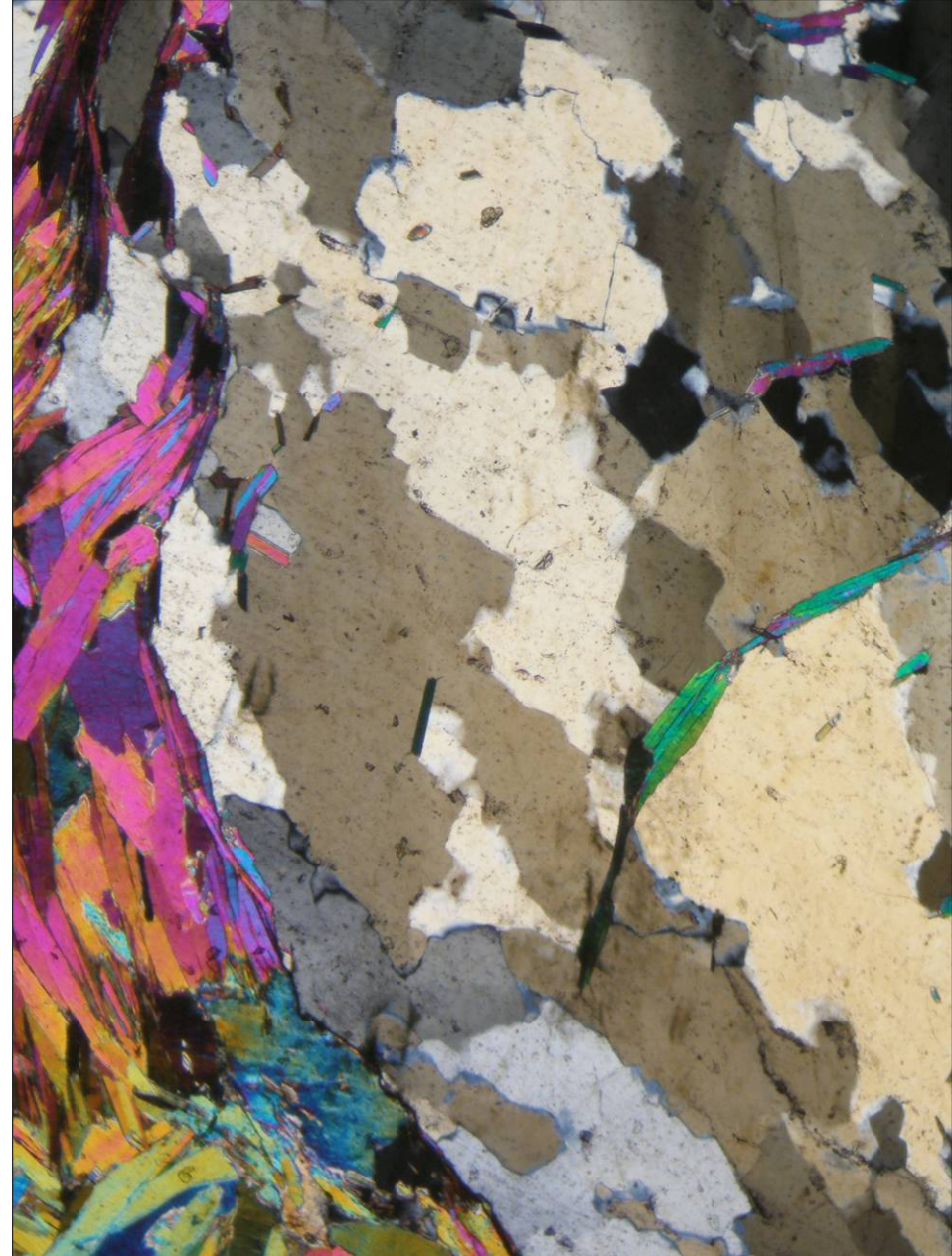
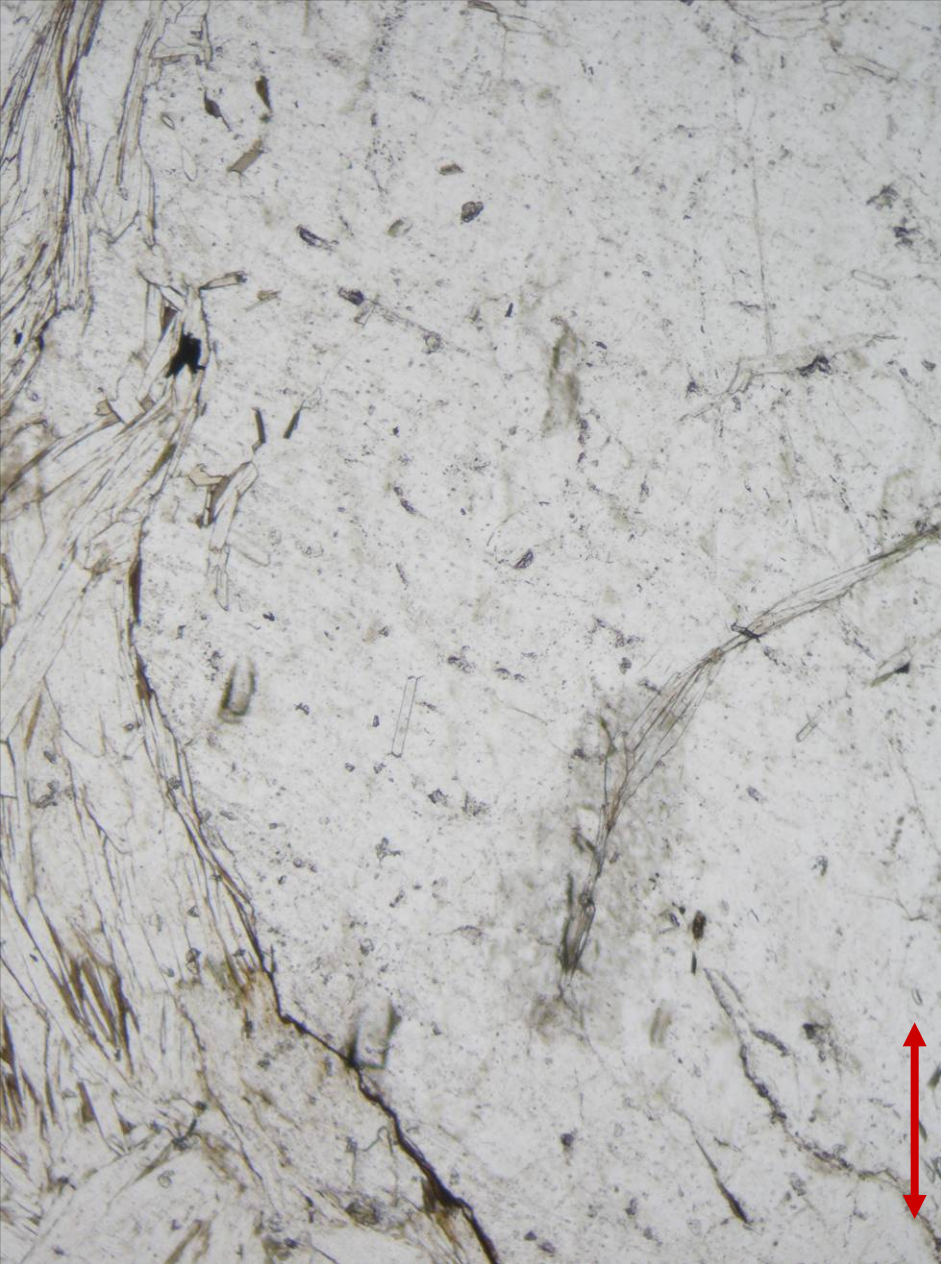
Quartz in mica schist from Markersdorf, Austria; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



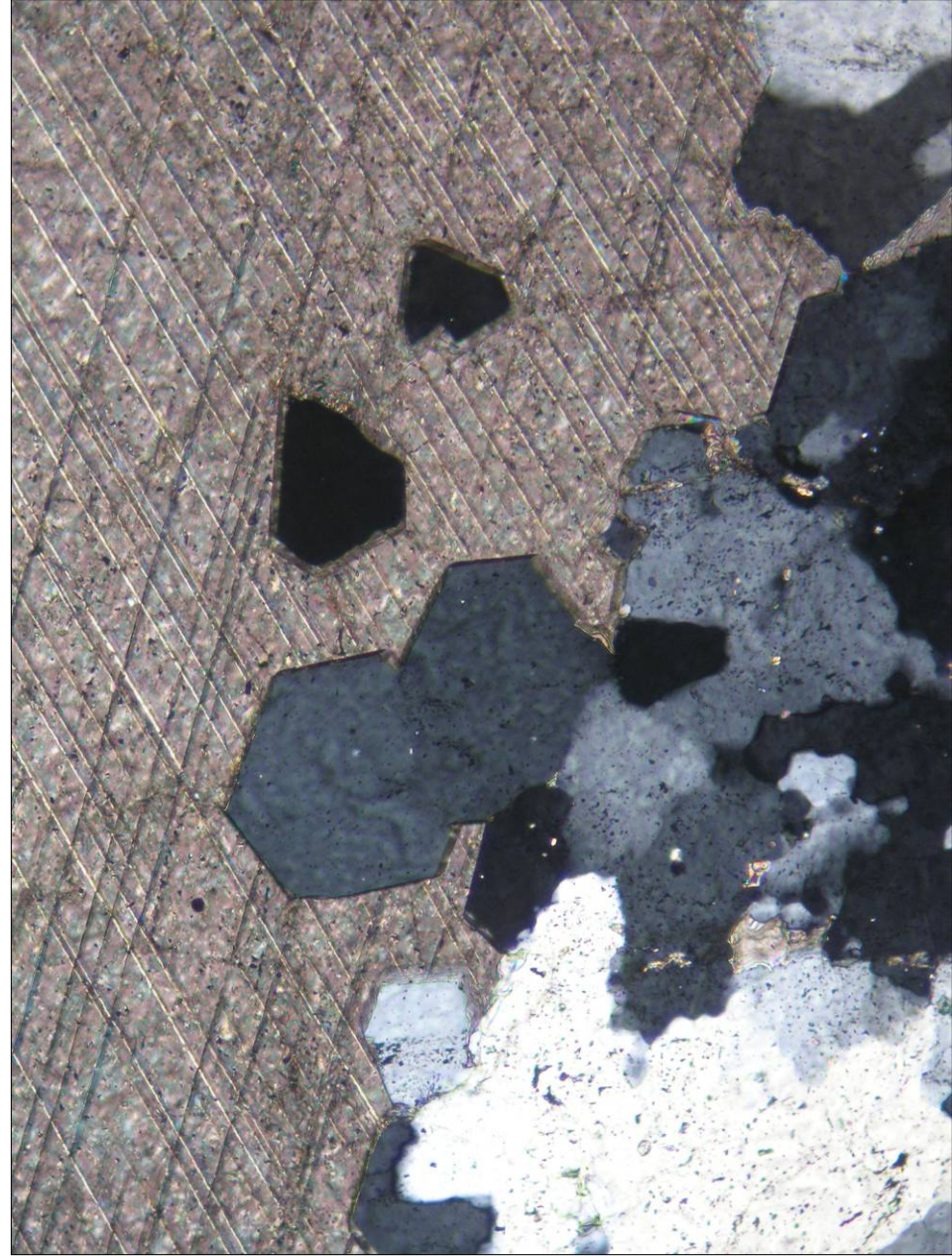
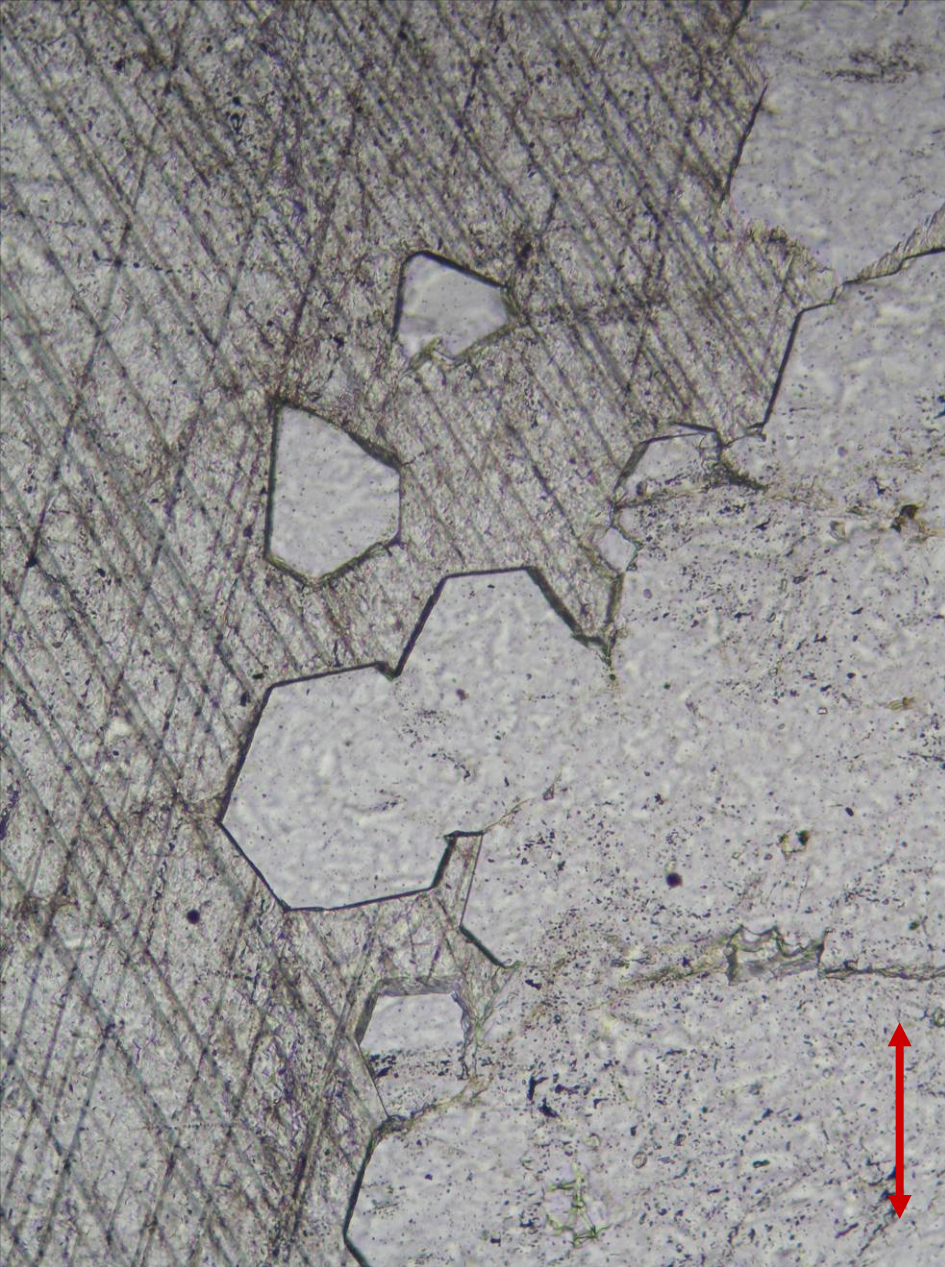
Quartz, muscovite and biotite in mica schist from Česká Ves, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.4 mm. Photo: JiZi.



Quartz and muscovite in mica schist from Česká Ves, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



Quartz in mica schist from Svojanov, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.8 mm. Photo: JiZi.



Quartz and calcite in the Alpine-type vein in gneiss from Bohutín, the Czech Republic; PPL (left) and XPL (right). Width of fields of view is ca. 1.7 mm. Photo: JiZi.