

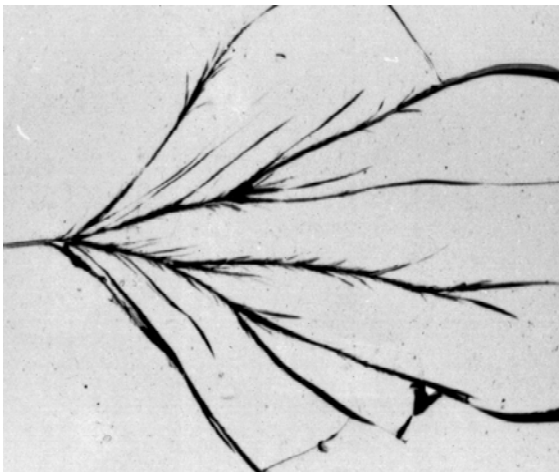


MINI-CURSO

"AN INTRODUCTION TO BRITTLE FRACTURE MECHANICS"

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Abstract: 1.75 million years ago, Homo habilis was already interested in the process of breaking solid objects in order to master flint knapping! However the scientific basis of fracture mechanics goes back to 1638 and the publication of Galileo's "Dialogues concerning two new sciences". Resistance of materials against rupture was the first of these two sciences.

The aim of fracture mechanics is the understanding crack nucleation and the conditions under which it propagates. During the twentieth century, the increasingly stringent safety standards led to the detection of cracks of all sizes in different structures (eg aircrafts, pipelines, silos ...). As it is impossible to repair these cracks or prevent their appearance, one would like to predict under which circumstances these cracks are dangerous. This is why fracture mechanics has become one of the most developed branches of continuum mechanics.

This course is an overview on brittle fracture mechanics. We will present the modeling of this phenomenon in the framework of the theory of linear elasticity and apply it to different experimental situations.

MARTES 16 OCT. : 15:30 – 17:00 HRS

MIÉRCOLES 17 OCT. : 9:40 – 11:10 HRS

JUEVES 18 OCT. : 15:30 – 17:00 HRS

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