

## Minerals in Science Fiction

CARLOS M. PINA<sup>1,2\*</sup> AND CARLOS PIMENTEL<sup>1,3</sup>,

<sup>1</sup>Departamento de Mineralogía y Petrología, Facultad de Ciencias Geológicas, Universidad Complutense de Madrid. C/ José Antonio Nováis, 12. 28040 Madrid (Spain).

<sup>2</sup>Instituto de Geociencias (UCM-CSIC)

<sup>3</sup>Unidad de Anatomía, E.T.S.I. de Montes, Universidad Politécnica de Madrid. C/ José Antonio Nováis, 10. 28040 Madrid (Spain).

(\*correspondence: [cmpina@geo.ucm.es](mailto:cmpina@geo.ucm.es);  
[cpimentelguerra@geo.ucm.es](mailto:cpimentelguerra@geo.ucm.es))

Imaginary minerals are frequently mentioned and described in science fiction literature, films, and videogames. These fictional minerals often exhibit impossible or extravagant properties, which confer to invented characters and/or civilizations astonishing capabilities such as extreme force, high velocity, resistance, almost inexhaustible energy, etc. Some of the most popular imaginary minerals are: kryptonite from *Superman's* comics and films; adegan crystals of lightsabres from the *Star Wars* saga; dilithium, used in the *Enterprise* spacecraft from *Star Trek* film series; and the levitating unobtainium from the film *Avatar* ([1] and references therein).

Since fictional minerals have become part of modern popular culture, they provide an interesting opportunity to attract people's interest for science. Therefore, a review of the characteristics of science fiction minerals and a subsequent comparison with real minerals and their properties can contribute to introduce amusingly complex mineralogical and material science concepts to a broader public.

We present here an analysis of some characteristics and properties of a selected number of well-known science fiction minerals with the aim of explaining, among others, concepts such as radioactivity, laser generation, matter-antimatter reactions, high temperature superconductivity, magnetic levitation and crystal structure. In this vein, we aim to promote scientific literacy among the general public and to attract people to the study of Mineralogy.

[1] Pina & Pimentel (2019) Pequeña guía de minerales inexistentes [Brief guide to non-existent minerals]. Ediciones Complutense (in Spanish).