

Raw Material Substitution in electronic, optoelectronic, and photovoltaic technologies.

ITO substitution in optoelectronics

A. Main topics

- Substitution of Indium in optoelectronics
- Indium Tin Oxide
- Optoelectronics

B. targeted audience

- 14-19 years old students

C. Key concepts

- Electrical insulators and conductors
- Electric circuits
- Optoelectronics
- Graphene and 2-dimensional materials

D. Experimental activity

- The experiment consists in a comparison between the conductance of ITO-coated glasses and graphene-coated glasses.

E. Toolkit material

- 1 uncoated glass, 1 glass coated with ITO, 1 glass coated with graphene (very expensive). The two latter can be purchased online.
- 1 breadboard,
- 3 cables with crocodile connection
- one LED
- 2 1.5 V batteries connected in series
- 1 digital multimeter.

F. RM Tutors

Marica Canino canino@bo.imm.cnr.it

