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# Joint ICTP-IAEA Workshop on Physics of Radiation Effect and its Simulation for Non-Metallic Condensed Matter | (smr 2359)

## Monday 20 August 2012

### Fundamental aspects of radiation damage of nonmetallic materials - Adriatico Guest House Giambiagi Lecture Hall (09:00-10:00)

***Ionizing and displacive irradiation produces a variety of effects at the atomic scale in nonmetals. During prolonged exposure, these atomic-scale effects can lead to pronounced property changes in materials. The average primary knock on atom energy of the atomic collision and exposure temperature can have a pronounced effect on the microstructural changes that occur during irradiation. In addition, the ionizing radiation component can modify the defect production, migration and resultant microstructural evolution. This presentation will review the fundamental aspects of defect production and microstructural evolution of inorganic materials, and will highlight commonalties and differences associated with ion beam and neutron irradiation of materials. A brief summary of radiation degradation mechanisms that can be induced by irradiation will also be given. Similarities and differences with radiation damage phenomena in metals will be summarized***

| time | title | presenter |
|---|---|---|
| 09:00 | Fundamental aspects of radiation damage of nonmetallic materials | STEVE ZINKLE |