



Education

Teaching Module Working Group



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OVERALL AIMS:



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1. To develop a method for the implementation of a lesson(s) from the Antimatter Teaching Module (ATM).



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OVERALL AIMS:

1. To develop a method for the implementation of a lesson(s) from the Antimatter Teaching Module (ATM).
2. To contribute to the development of a **new** teaching module on the theme of "Medical Applications of Particle Physics".



Education

AIM 1



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Imagine that you would like to teach a lesson (or lessons) on the topic of antimatter to your students next week.



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- *How can you practically use the ATM resource with your students?*



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- *At what point in your syllabus and at which grade level would it be useful to use the lesson?*



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- *At what point in your syllabus and at which grade level would it be useful to use the lesson?*
- *How much time would you use?*



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- *How can you practically use the ATM resource with your students?*
- *At what point in your syllabus and at which grade level would it be useful to use the lesson?*
- *How much time would you use?*
- *What kinds of peripheral materials would you require? (for example, background info, handouts, homework exercises, ideas for activity-based exercises related to the lesson, etc.)*



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AIM 2



AIM 2

To create a framework (outline/skeleton)
for a teaching module on the
Medical Applications of Particle Physics.

Use of Accelerators Today

General industrial use:

Sterilisation, imaging

Research accelerators:

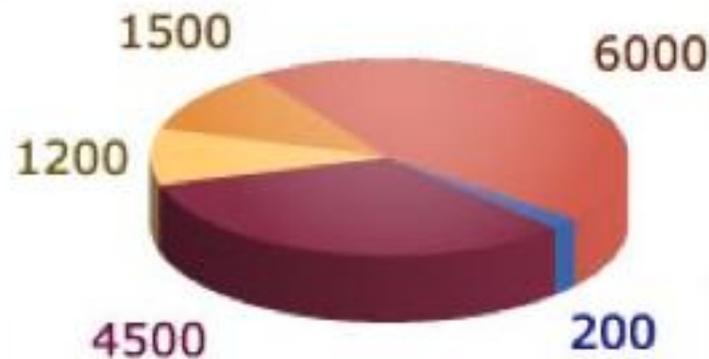
Particles, synchrotron light used in biomedical, physics, chemistry, biology, material research

Radiotherapy:

Cancer treatment with X-rays, protons and other particles

Ion implantation, surface modifications:

Controlled semiconductor doping; Changing properties of surfaces



Radioisotope production:

Cancer treatment; imaging organs for medical use

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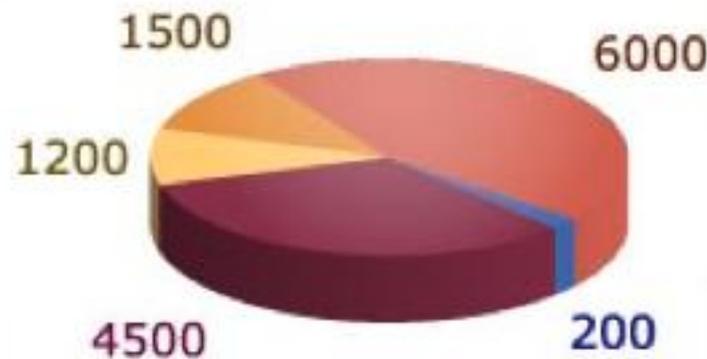
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Linacs used in radiotherapy represent 40% of all running accelerators:

France, Germany, Italy: 4 units per million inhabitants

Switzerland: 11 units per million inhabitants

Finland: 14 units per million inhabitants

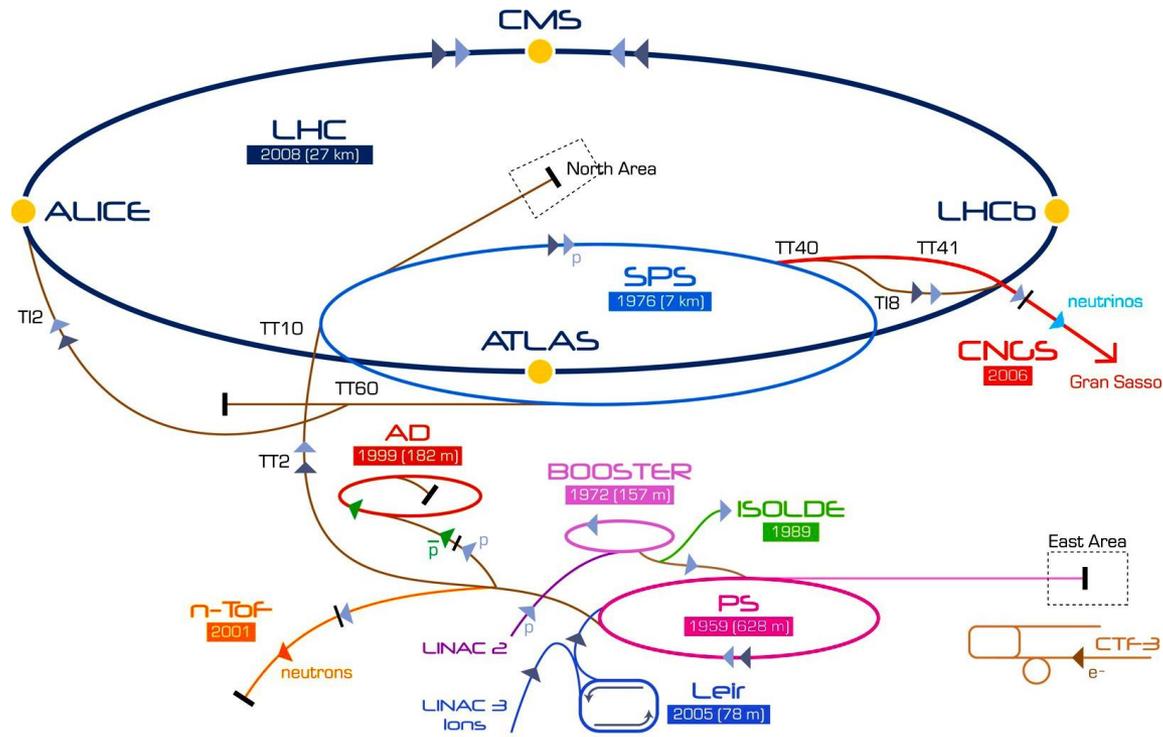


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***Keep in mind that...
...we are designing Teaching Modules that
target students aged 14-15 years.***



...and that use topics that are related to the experiments being done at CERN.





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The Teaching Module Working Group...



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The Teaching Module Working Group...

...will give you an opportunity to contribute directly to an educational resource that you can use immediately in your classroom.



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...allow you to have direct input into a CERN educational resource that will be made available on our education website.



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...take what you have learned at CERN and channel it for the benefit of physics teachers and their students worldwide.