Pelletron – VDG or VDGT?

(N. Otsuka, 2017-02-14, Memo CP-D/922)

There are a number of EXFOR entries from experiments with Pelletrons. Their structures are similar to Van de Graaff or Tandem Van de Graaff accelerators (pellet chain instead of rubber belt), and we have applied `VDG` or `VDGT` under the keyword FACILITY for the experiments with Pelletrons. However the article usually does not mention whether the Pelletron is a Van de Graaff type (single ended) or Tandem Van de Graaff type, and distinction of `VDG` and `VDGT` has not been done systematically in our coding.

Mr Mike Mores (National Electrostatistics Corp.) kindly explained me that the Pelletron is a tandem system if "D" is in the name, or a single ended system if "D" is not in the name. I believe this will help us selection of `VDG` or `VDGT`. A few examples of Pelletrons often seen in EXFOR entries are summarized below:

Location	Lab.	Name	Facility
Departamento de Física Nuclear, Universidade de São Paulo, São Paulo	`3BZLUSP`	8UD	`VDGT`
Department of Nuclear Physics, Australia National University (ANU), Canberra	`3AULCBR`	14UD	`VDGT`
Tandem Accelerator Center, Univ. Tsukuba (UTTAC), Tsukuba	`2JPNTSU`	12UD	`VDGT`
Tata Institute of Fundamental Research, Mumbai (BARC-TIFR)	`3INDTRM`	14UD	`VDGT`
Inter-University Accelerator Cenre (IUAC), New Delhi	`3INDNSD`	15UD	`VDGT`
Research Laboratory for Nuclear Reactors, Tokyo Institute of Technology, Tokyo	`2JPNTIT`	3UH-HC	`VDG`

See http://www.pelletron.com/link2.html for more Pelletrons.

Addition to this working paper:

- A possible solution is therefore to choose VDG or VDGT based on the machine name (i.e., use VDG if D is absent otherwise use VDGT.).

- Another solution could be to introduce a new facility code for Pelletrons. But it creates another question – Which code should we apply for Tandetron?