
KAERI/NDC Progress Report



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01 Introduction

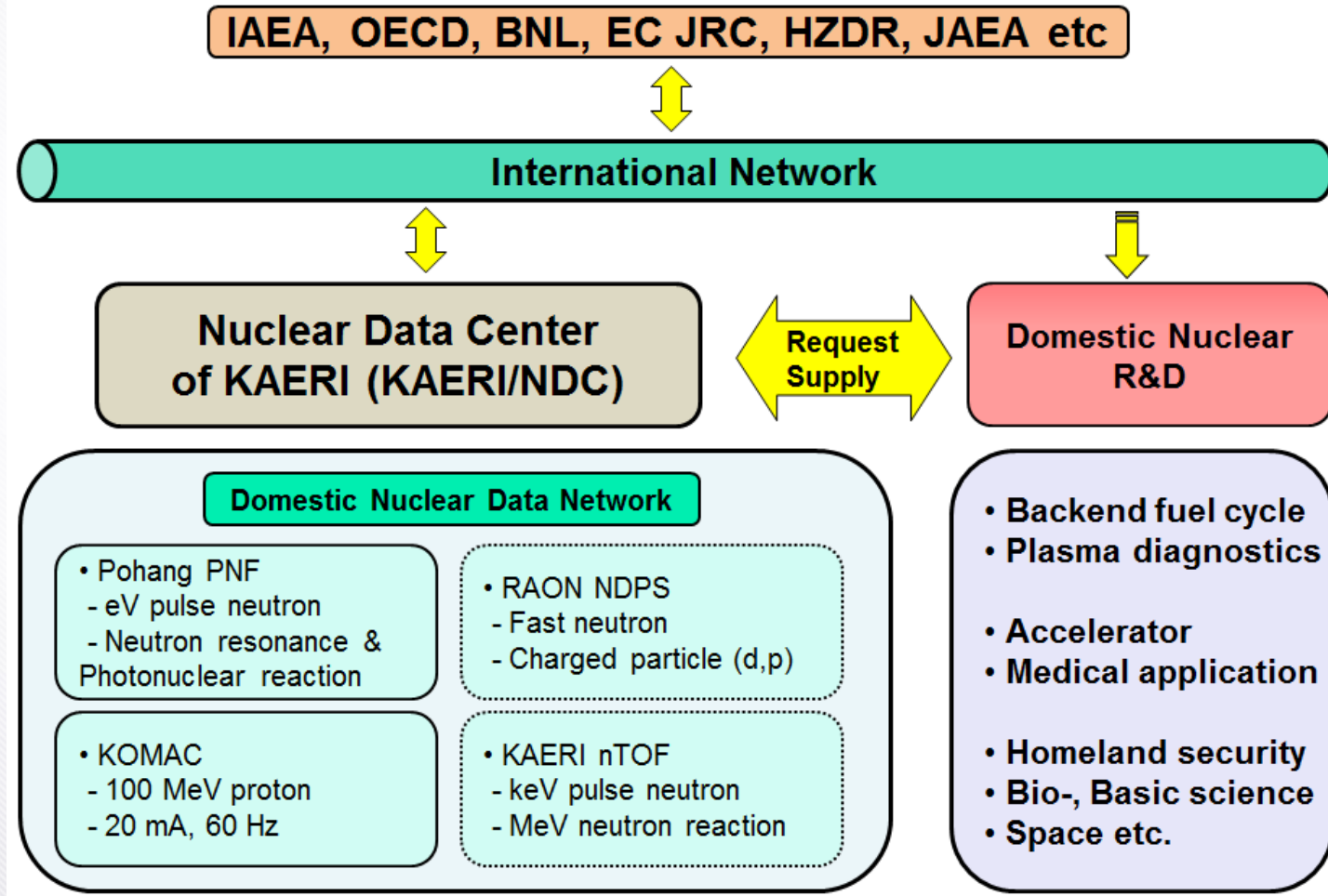
» Main tasks

- **Evaluation** and method development for nuclear reaction data
- **Validation** of nuclear reaction/covariance data
- **Measurement** of nuclear reaction data
- **Production and validation** of atomic/molecular collision data

- **Code development and analysis** for reactor core and shielding
- **Development** of advanced accelerator

01 Introduction

» Missions



02 EXFOR activity

» Responsibility

- Neutron, charged particle and photon data from Korea (coordinated by NDS)
- Beginning of EXFOR-DB construction from 2009

» Compilation status

- Number of new entries: 10 (5 in EXFOR)
- Incident particle: proton (2), neutron (2), gamma (6)
- Checking tool: (www.jcprg.org/exfor/tool)

03 Facilities of Korea

» Existing facilities

- Electron linear accelerator (PAL) – 70 MeV
- Cyclotron (KIRAMS) – 45 MeV p, d, α
- Proton linear accelerator (KOMAC) – 100 MeV

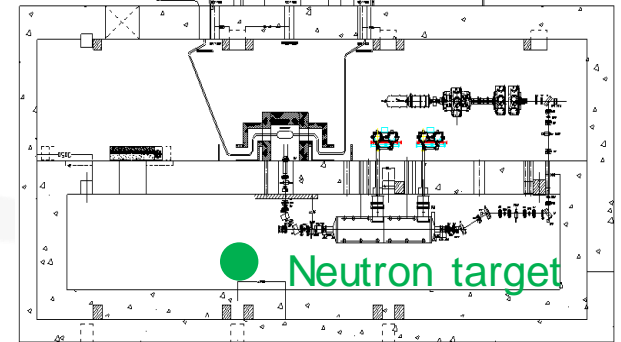
» Planned facilities

- Electron linear accelerator (KAERI/NDC)
 - 17 MeV SC linac
 - Neutron production
- Heavy-ion accelerator (IBS)
 - Cyclotron (70 MeV proton), SC linac (H ~ U, 200 MeV/u)

03 Facilities of Korea

» nTOF of KAERI/NDC

- Completion of TOF facility construction (2019.01)
- Repair of electron accelerator (ongoing)
- Licensing work (ongoing)
- TOF length: 5 – 10 m



TOF facility

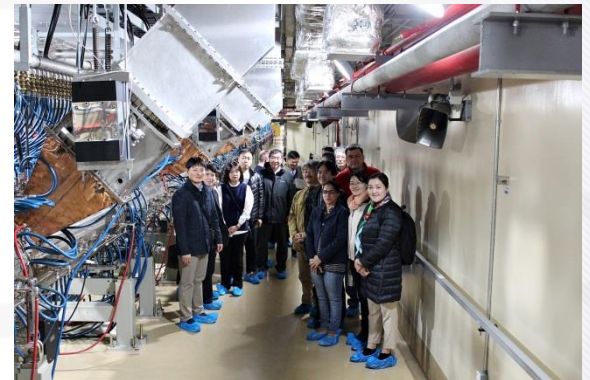
Electron energy	17 MeV
RF power	Max. 100 kW
Pulse width	~20 ps
Pulse current	~20 A
Pulse frequency	Max. 2 MHz (200 kHz)
Beam power	Max. 14 kW (1.4 kW)
Ave. current	Max. 0.8 mA (0.08 mA)



04 Cooperation with Asian ND center

» Workshop

- The 9th Asian Nuclear Reaction Database Development workshop (2018.11)
- Organized by KAERI and supported by IAEA
- To share the nuclear data activities on measurement, evaluation, EXFOR compilation and so on
- Proceedings: INDC(KOR)-006



05 Summary

- Main tasks and mission of KAERI/NDC
 - Evaluation, Validation, Measurement, and Code development
 - Collaboration with domestic and international networks
- EXFOR compilation
 - 10 new entries since 2018 NRDC meeting
- Introduction to facilities
- Continue to update our website (<http://atom.kaeri.re.kr>)