J4 Editor: A new editor for EXFOR data compilation using GUI Toolkit

A Python-based GUI to simplify the contribution to the global database

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(slightly revised by M. Aikawa for presentation)

Project Overview

Background:

- **EXFOR format** developed by IAEA is universally employed but strict and complex for new compilers.
- Manual compilation requires deep technical knowledge → barrier for contributors.

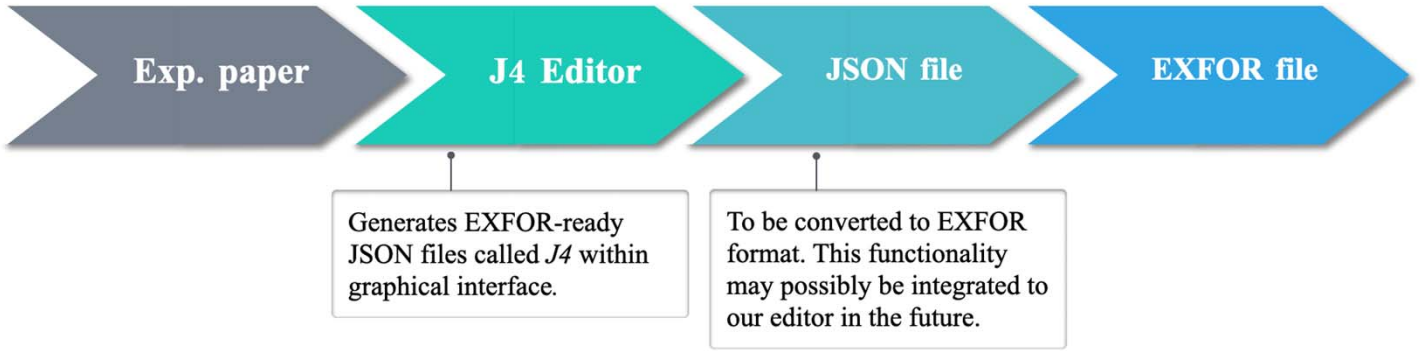
Goal:

- Lower the barrier for compilers by offering **a platform-independent GUI tool**.

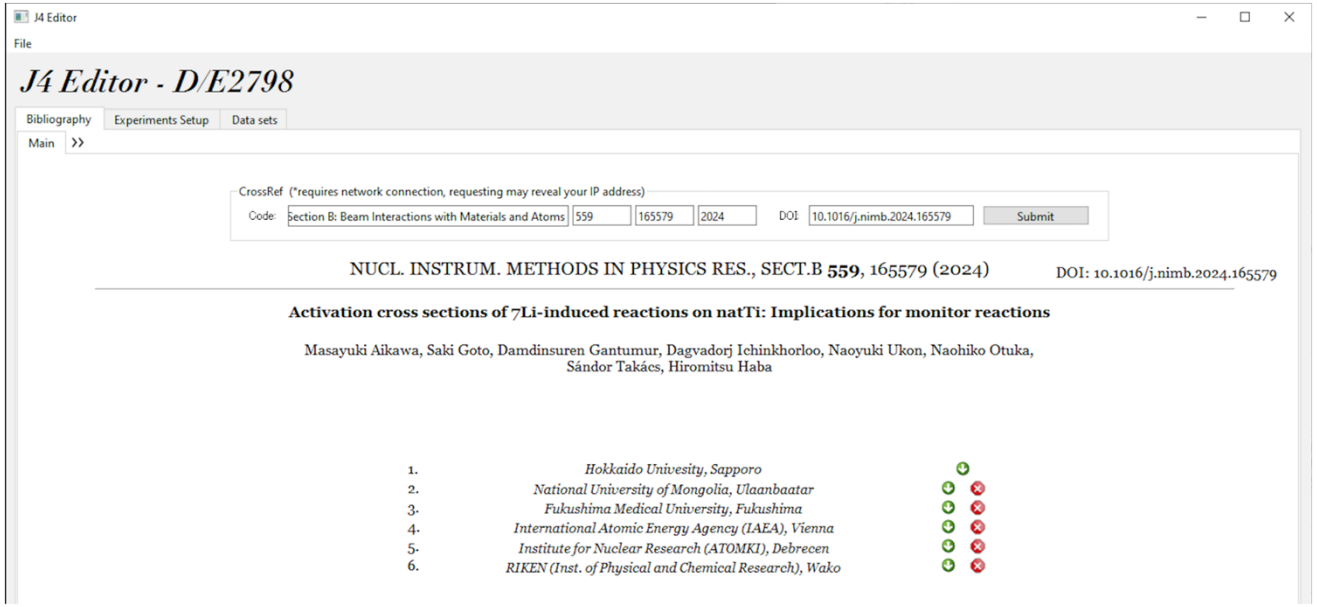
Target users:

- Both experienced and **new compilers**, who may include experimental nuclear physicists and students.

→ *J4 Editor* (provisional title) is now under development



Key Features & Design Direction (demo status)



- ✓ **User-friendly GUI (PyQt):** Simplifies and integrates data compilation via guided fields.
- ✓ **EXFOR-ready flexibility**: Fields map to EXFOR structure, without severe restrictions.
- ✓ **Minimal dependency**: Written in Python – runs on Windows, macOS, Linux.
- ✓ **Paper-aware layout**: Supports direct compilation and metadata autofill.

Comparison

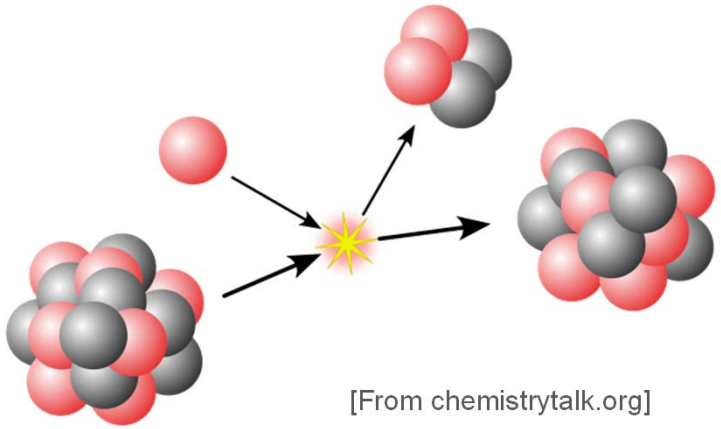
How J4 Editor contributes to the workflow:

Features	J4 Editor	HENDEL	Manual Entry
No need for EXFOR expertise	Yes	Partially	No
Format flexibility	Yes	Partially	—
Guided input	Yes	Yes	—
Open-source / Extensible	Yes	No	—

Future Roadmap

Planned Features:

- Graphical interface for more intuitive editing
- Verbose file (abstructs, author-affiliation correspondence, etc.) support
- Live EXFOR preview/export



[From chemistrytalk.org]

$$A(B,C)D$$

SF1 SF2 SF3 SF4

compile

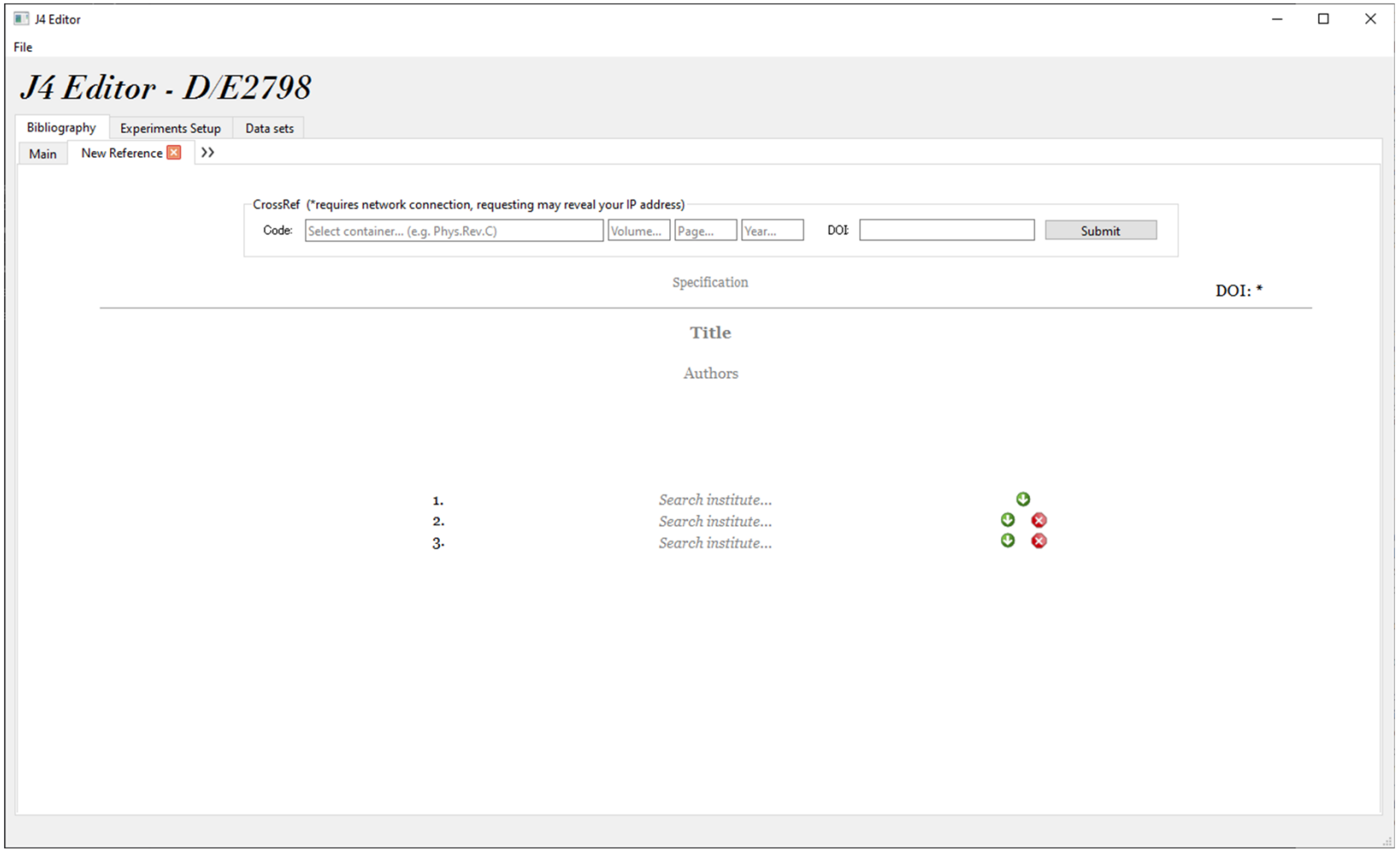
SF1
- Target information
- …

SF2
- Projectile information
- Accelerator conditions
- …

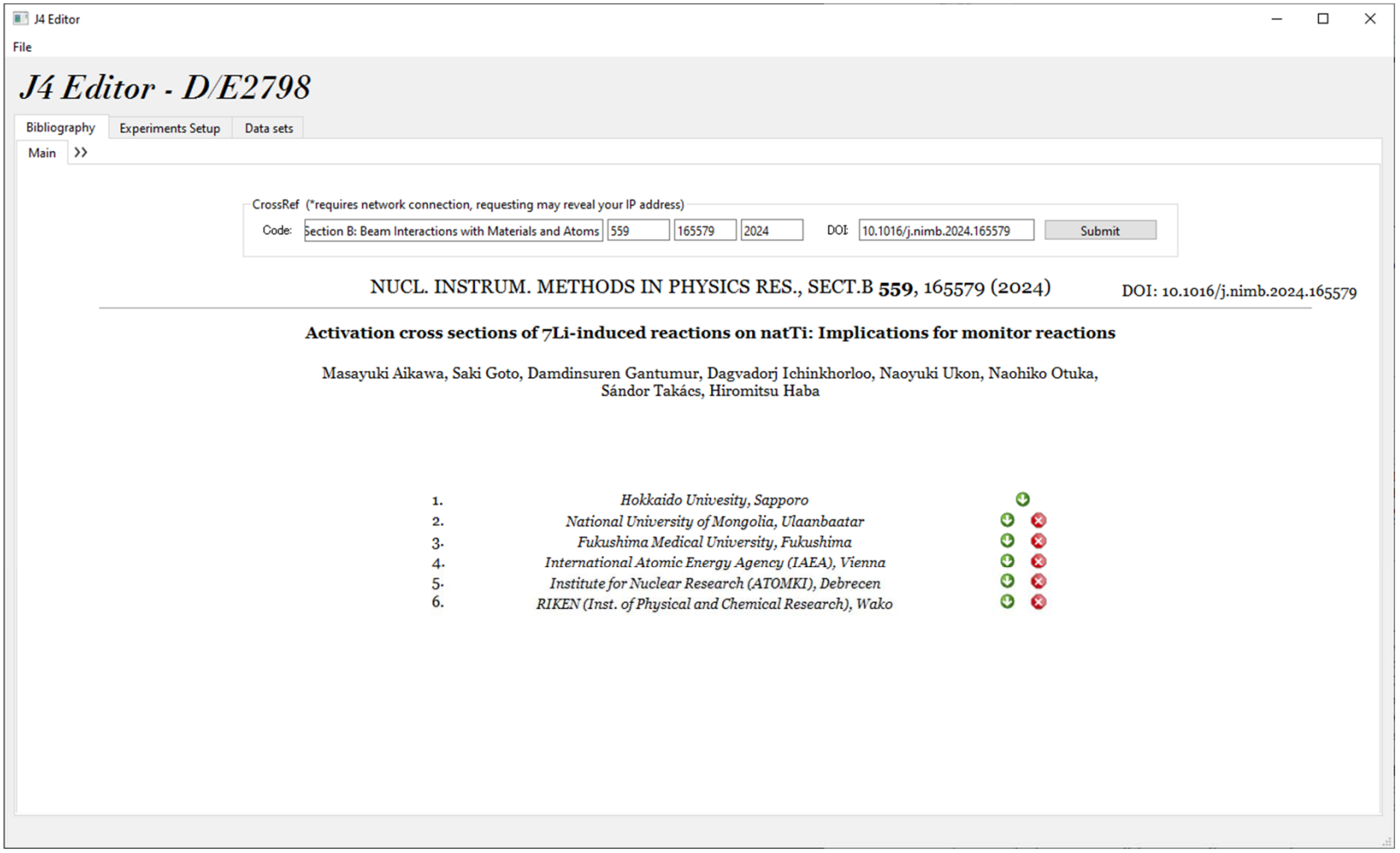
SF3
- Detected particles and radiation
- …

⋮

Look (and feel)



Look (and feel)



Look (and feel)