Time-line of McMaster-MSU JAVA-NDS code

2007: Balraj Singh (McMaster University) proposed that a new computer code should be available in a modern language such as JAVA for the production of NDS-style print versions of tables, level-schemes and band drawings, a code which the ENSDF evaluators could run on their own computers. Further, Balraj suggested that such a code be written by Roy Zywina, his student with excellent programming skills, who had worked during 2001-2004 on several ENSDF-related projects, including the production of photo-ready publication of "Table of Superdeformed Nuclear Bands and Fission Isomers" in 2002.

 2007-2008: Roy developed such a code in regular consultation with Balraj.

 2008-2011: Scott Geraedts and Jeremie Choquette, McMaster students working with Balraj (on XUNDL and NSR projects) worked on this code further to make it operational.

April 2015- present: Dr. Jun Chen (NSCL, MSU) made major improvements to make this code user friendly and complete for general users and for NDS production (beginning in February 2017), and to make it adapted for web-display of ENSDF and XUNDL databases (beginning in March 2017).

Version	Year	Developers	Description
1.0	2007-2008	Roy Zywina Balraj Singh (McMaster Univ.)	Built the basic structure of a large code, but not functional. Roy quit working on the code.
1.1	2008-2010	Scott Geraedts Balraj Singh (McMaster Univ.)	Wrote an interface to make the code workable for tables and drawings, but mainly focusing in band drawings for NDS publications. 2009-2014 this code used for band drawings in several NDS publications.
1.2	2009-2011	Jeremie Choquette Balraj Singh (McMaster Univ.)	Further code writing to produce complete tables and drawings of level schemes and bands with a control file. Complete mass chains were produced in publication quality. This version demonstrated at NSDD-2009 and NSDD-2011. 2012- onwards, this code used by Dr. M. Verpelli at IAEA for drawings in his LiveChart code. 2011-2015: no further development due to lack of interest.
1.3	April 2015- August 2016	Jun Chen (NSCL, MSU)	Restructured the program; added features for auto-adjustment of table layout; added graphical user interface (GUI). Working version of the code demonstrated at IAEA-ENSDF-Codes meeting in October 2015 and US-NDP meeting in

			November 2015. *November 30, 2015*: beta version sent to NSDD network for comments and feedback. *May 9-11, 2016*: a workshop on validation and implementation of JAVA-NDS was held at TUNL to discuss the details of this program with comments and feedback from users and evaluators and to make plan for improvements.
1.4	August 2016	Jun Chen (NSCL, MSU)	*August 15, 2016*: a released version is available for downloading for the whole NSDD community.
1.5	November 2016 - June 2017	Jun Chen (NSCL, MSU)	*November 08, 2016*: lots of improvements were made since version 1.4; functions for manual settings with a control file or in control panel are fully implemented. *February 16, 2017*: the first NDS publication (Nuclear Data Sheets for A=40) produced using a further improved version is online. *March 1, 2017*: a modified version was used to generate PDF files for web-display of ENSDF and XUNDL databases on NNDC retrieval webpages, which completely replaced the previous HTML display.
1.6	June 2017	Jun Chen (NSCL, MSU)	*June 28, 2017:* a stable version with lots of minor bug-fixes is available for downloading for the whole NSDD community (regular release will be every 6 months unless there are major changes).
1.7	January 2018	Jun Chen (NSCL, MSU)	*January 5, 2018:* regular release of a new version with lots of minor bug-fixes and improvements
1.8	July 2018	Jun Chen (NSCL, MSU)	*July 13, 2018:* regular release of a new version with minor bug-fixes and improvements, e.g., alignments of table records, use of LaTeX text enclosed brackets of "^{}" in ENSDF file, and so on.
1.9	January 2019	Jun Chen (NSCL, MSU)	*January 7, 2019:* regular release of a new version with bug-fixes and improvements
2.0	July 2020	Jun Chen (NSCL, MSU)	*July 30, 2020:* regular release of a new version with bug-fixes and improvements
2.1	January 2021	Jun Chen (NSCL, MSU)	*January 27, 2021:* regular release of a new version with bug-fixes and improvements

2.1 (fix)	March 2021	Jun Chen (NSCL, MSU)	*March 26, 2021:* fixed some bugs which could be major for some specific datasets
2.1 (fix)	May 2021	Jun Chen (NSCL, MSU)	*May 10, 2021:* fixed an issue that continuation records are not printed if there are multiple continuation records with the same name. Fix: print all in comments.
2.1 (fix)	December 2021	Jun Chen (NSCL, MSU)	*December 9, 2021:* fixed some bugs, e.g., missing flagged footnotes in delayed-particle tables
2.1 (fix)	May 2022	Jun Chen (FRIB, MSU)	*May 2, 2022:* regular update with some minor bug fixes and improvements.