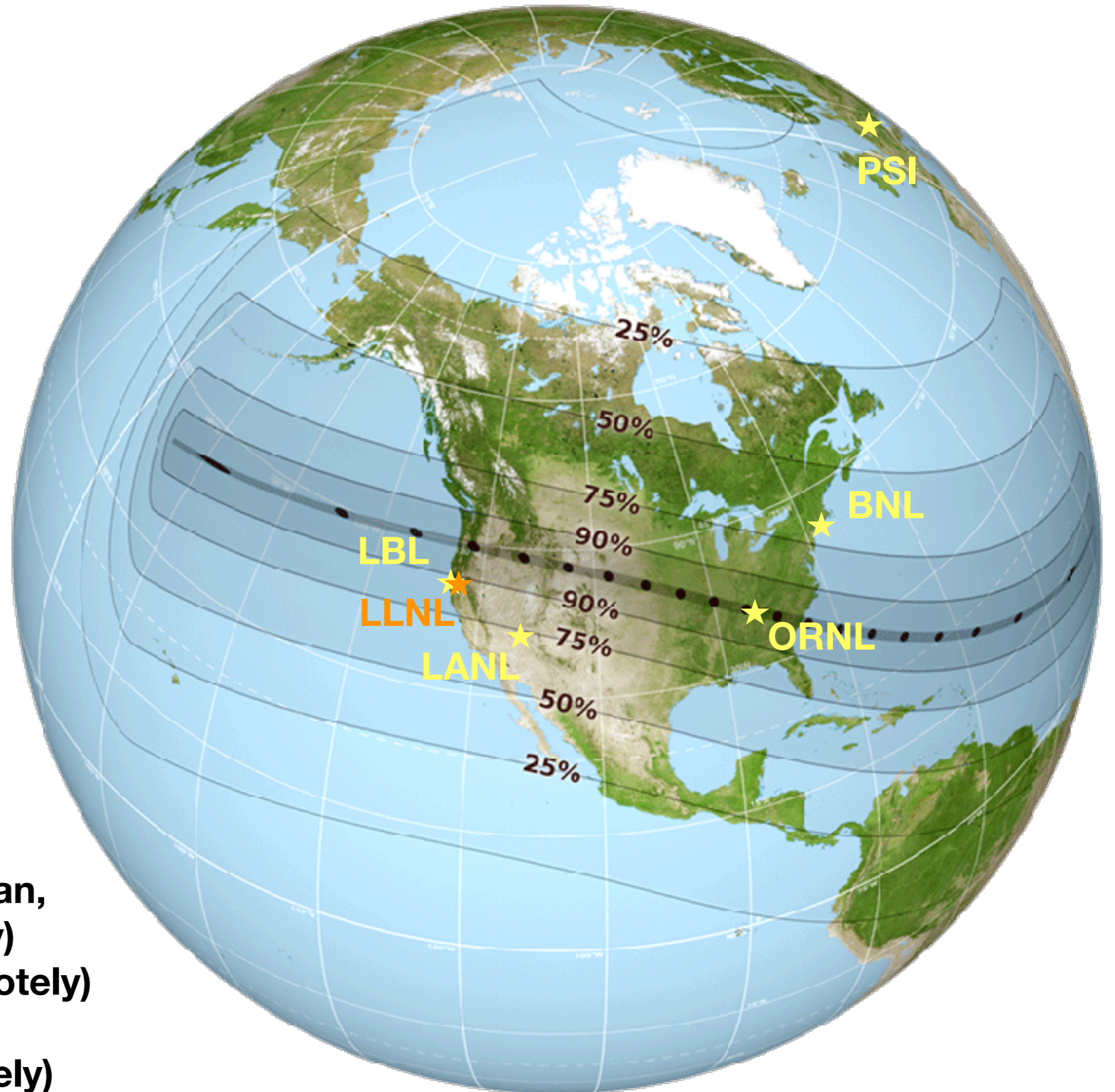




ENDF Eclipse Week Hackathon Summary

21-25 Aug 2017

**Held at
LLNL,
79% of
totality**



ENDF hackers:

LLNL: Ian, Caleb, Sofia

LBL: Amanda

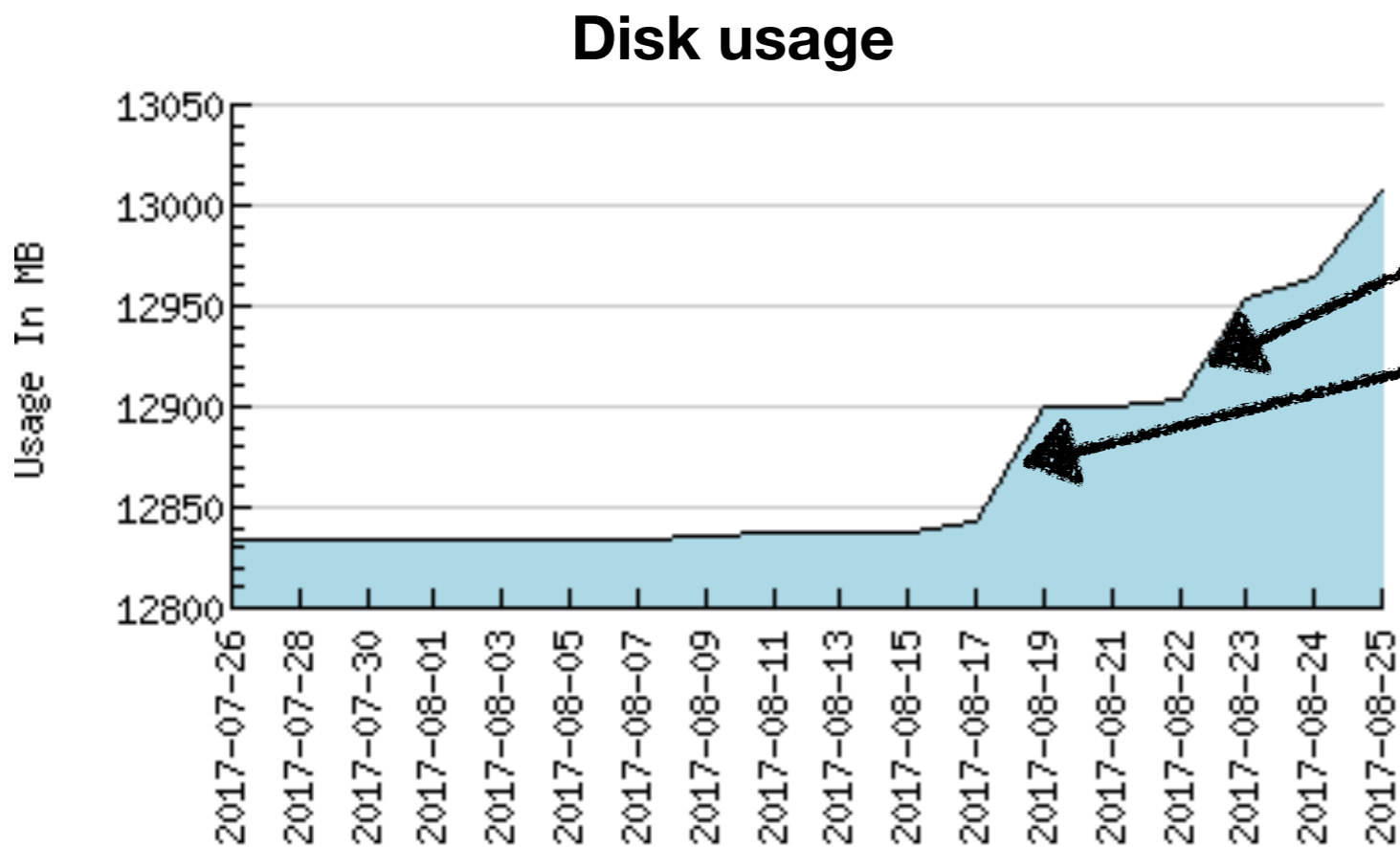
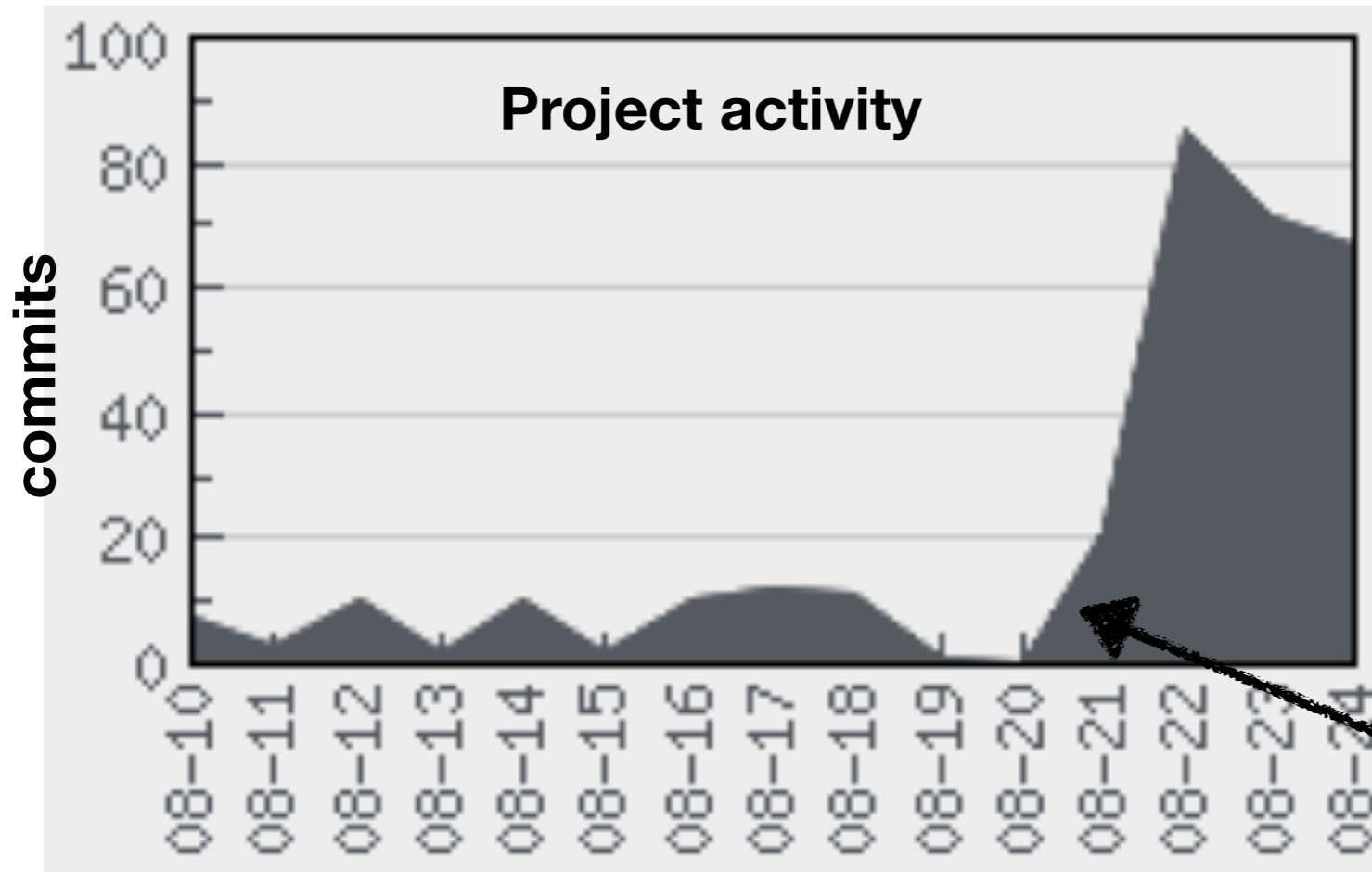
**LANL: Toshihiko, Morgan,
Denise (remotely)**

ORNL: Doro, Vlad (remotely)

BNL: Dave

PSI: Dmitri (very remotely)

GForge noticed that we were busy



Hackathon
begins

TENDL+EMPIRE
commits



Focus on errors that either halt processing or halt user calculations

- **MT2 vs. MT32 mismatches**
(AMPX, FUDGE complain)
- **$\sigma(n,el) < 0$**
(NJOY, PREPRO complain)
- **$P(\mu|E) < 0$** (All codes complain)
- **Isomeric confusion**
(All codes complain)
- **MF12 level info. vs. MF3 level info** (FUDGE complains)
- **Missing evaluation parts:**
 - **Fission data in ^{245}Pu , ^{247}Cm**
(NJOY complains)
 - **Charged particle elastic scattering**
(NJOY complains)
- **Assorted formatting errors** (All codes complain)



Cosmetic changes

- NMOD wrong (this halts CHECKR's checking, missing more important errors)
- Prepare headers for VIII.0
- Fix/assign MAT numbers
- Interpolation



While making these changes, we also added many new files

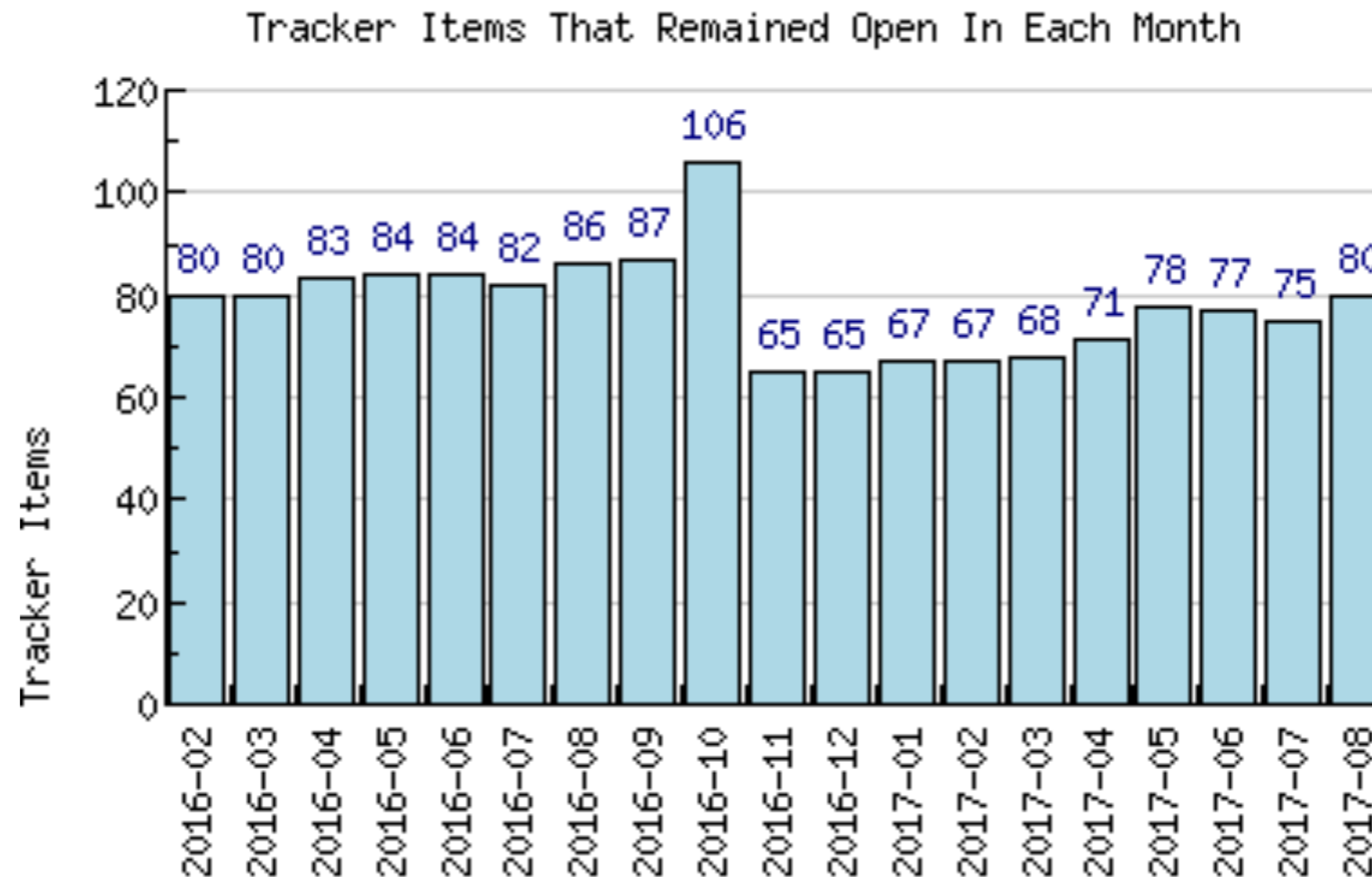
- Revised ^{235}U from IAEA
- Pt evaluations from TENDL
- 100+ evaluations from
TENDL+EMPIRE project



Committer	No. Commits	No. Files Changed	Focus
Mattoon	20	154	Isomers
Thompson	17	88	Charged particles
Conlin	1	1	NJOY formatting
Brown	45	149	New files (esp. TENDL+EMPIRE)
Kawano	7	12	Elastic cross sections >0
Quaglioni	1	6	Photonuclear
Lewis	36	342	Header issues
Wiarda	11	31	Covariance
White	0	0	Fission energy release
Neudecker	0	0	PFNS
Sobes	0	0	Covariance
Rochman	0	0	Platinum



We added trackers for issues we could not fix



- Lots of missing or mis-classified gammas (4 very big trackers)
- ^{152}Gd has duplicate resonances



“Alternative Metrics”

- Checking and processing codes don't have uniform criteria for errors (either what triggers them or what the message is), so meaningful regressions impossible...
- Banned from GForge twice!
- Overloaded ADVANCE, took ~ 1 week to catch up
- Page count in neutron release notes dropped ~15% while sublibrary size grew ~25%



Will require beta4.1 release in week following Hackathon