Comments on Wieser et al., 2026:
This manuscript presents a useful in-flight calibration study of the JDC sensor onboard Juice, based on observations during the Earth flyby. The authors show that the original low-energy sweep table produced an unreliable energy assignment, especially at low energies, and that laboratory measurements of the ESA voltage can be used to reconstruct the effective energy scale. The corrected observations become more consistent with the spacecraft potential, and the new sweep tables will be important for future low-energy particle measurements near Jupiter's icy moons. Overall, the paper is interesting and timely. I recommend publication after revision. My main comments are listed below.

1. Spacecraft potential should be introduced earlier and connected to the target observations. The interpretation of low-energy ions strongly depends on the spacecraft potential, but the manuscript does not clearly explain why the spacecraft may charge negatively or positively in different plasma environments. I suggest adding a paragraph in the Introduction or Discussion to introduce this issue and link it to the relevant target regions, including Earth's plasmasphere during the flyby and the expected environments near Ganymede, Europa, and Callisto.

We suggest extending the paragraph starting on line 34 (Introduction) as follows (Text inside [ ] is already exiting text):
[The Jovian Plasma Dynamics and Composition Analyzer (JDC; Wittmann, 2022), part to the Particle Environment Package (PEP; Barabash et al., 2026), is one of the sensors on Juice designed to observe the low energy ion populations at Jupiter's icy moons. Such observations are not trivial.] *Due to the interaction between the spacecraft and its environment a spacecraft gets electrically charged. Whether the spacecraft potential is negative or positive depends on the plasma environment, and is decided by a current balance (Garrett, 1981; Wipple, 1981). The main contributing currents are often the photoelectron current and the electron current. The photoelectron current is the result of solar photons causing emission of electrons from the spacecraft surface, driving the spacecraft positive. The electron current is the electrons in the plasma colliding with the spacecraft, driving it positive. As the plasma electrons are more mobile than the ions, the ion current is often negligible. In a dense plasma the electron current dominates over the photoelectron current charging the spacecraft negative. This happens for spacecraft in the Earth's plasmasphere (e.g., Kim et al., 2022; Zeroual et al., 2026) and Juice is expected to charge negatively in the ionospheres of Europa and Ganymede (Bochet et al., 2023). A charged spacecraft* [prevents low energy ions with the same charge from reaching the detectors. As an example, …]

2. The Introduction mentions previous Galileo and Juno observations of Ganymede's ionosphere, but the current knowledge of its low-energy ion population is still described rather briefly. Since the main result of the paper is the optimization of low-energy sweep tables, the authors should better explain what ion populations are expected at Ganymede, their likely energy range, possible ion species, and the main open questions. This would make the need for the new table more convincing.

As the paper focuses on the energy sweep tables and does not discuss the mass resolving capability of the JDC sensor, we would prefer to concentrate on this aspect of the future ion observations in the Jupiter system. We propose to add the following text to the section "Optimizing future measurements", after describing the new energy sweep strategy, but before discussing the new energy tables:
The Juice mission provides a challenge for particle measurements, probing many different plasma environments. The six different sensors comprising PEP are designed to complement each other. JDC (together with JEI at the other side of the spacecraft) cover the mid-energy regime (~1 eV/q–35 keV/q) and must be able to detect heavy ions (e.g., O^+, S^{2+}, O^{2+}) in the Jupiter magnetosphere with energies up to tens of keV (Allegrini et al., 2022) as well as ionospheric plasma at Ganymede with energies below 10 eV (Frank et al., 1997; Valek et al., 2022). The observed energies of cold ionospheric ions depend on the ram velocity as well as the spacecraft potential. Heavier ions will be detected at higher energies than lighter ions. The Juno flyby of Ganymede in June 2021 suggests that an energy range of a few eV to a few hundred eV is a good choice for ionospheric observations (Valek et al., 2022).

3. The energy correction is central to the paper, and the current validation based on the removal of artificial banding and the consistency with spacecraft potential is convincing. I wonder whether it would be possible to provide an approximate uncertainty estimate for the corrected energies. This could include contributions from different sources, including but not limited to the laboratory voltage measurement, possible differences between the laboratory model and the flight unit, and the intrinsic ESA energy resolution. If a full estimate is not possible, a brief discussion of the dominant uncertainty sources would still be helpful.

The estimated uncertainty of the reconstructed energy levels shown in Figure 4 (red dashes) is about +/-0.5 eV. Measurement uncertainties of U_{ESA} of about +/-50mV are the most dominant contribution to that. Also, for some energy steps, U_{ESA} was found to not have stabilized sufficiently within the 2 ms long settling time at the beginning of each energy step; these were removed from the data shown in Figure 5. The other main source of error are possible differences between the flight spare model of JDC on the spacecraft and the flight model available in the laboratory, estimated to add +/-40mV uncertainty to the value of U_{ESA}. The uncertainty of the JDC electrostatic analyzer constant $E/U_{ESA} = 7.8+/-0.1$ and the energy resolution of $\Delta E/E=0.15$ have both a negligible effect on the uncertainty of the corrected energies.

Our suggestion would be to add the text as formulated here to section 5 of the paper.

4. The choice of the three new energy ranges, 1 eV–35 keV, 1 eV–18 keV, and 1 eV–500 eV, should be briefly justified in terms of future science cases.

The new energy table with the maximum energy of 35 keV corresponds to the originally available energy table with the maximum energy coverage possible for JDC, but with corrected low energy settings. The justifications for these tables given in the answer to comment number 2, and the tables will be presented immediately after the motivation in the manuscript.

The energy table with the maximum energy of 18 keV is an engineering compromise with reduced power consumption while still providing reasonable high energy coverage and improved low energy coverage. Such a table may be the opportunity to run JDC even when the power available is limited and hence increase the science return. This will be explained when presenting the new tables.