Appendix: Accurate Visualization of Galaxy Velocity Fields from Three-Dimensional Integral Field Spectroscopy Data

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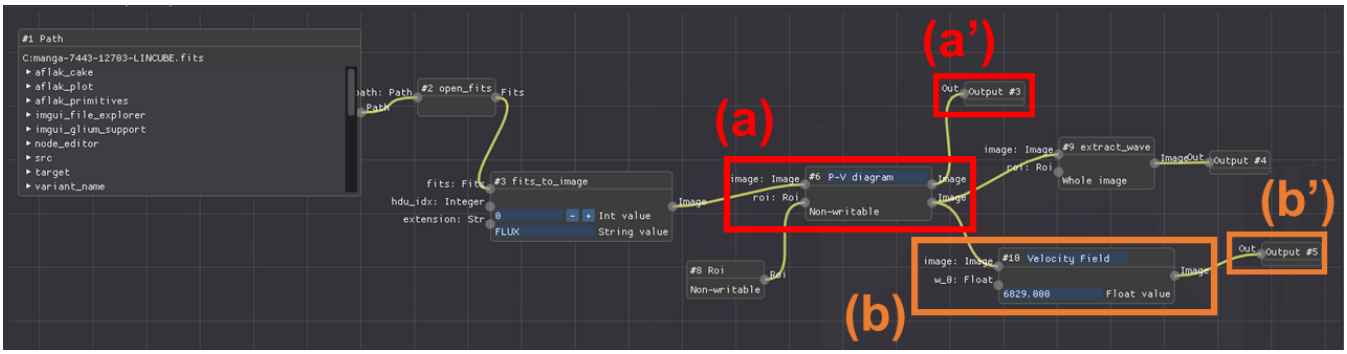

Figure A–1: *The full-scope structure of the* `aflak` *visual analysis program. Data flows from left to right, through two macros: "P-V Diagram" and "Velocity Field." (a) "P-V Diagram" macro, which takes advantage of datacube slicer and probe to take original 3D data and a user-specified cross-sectional line to produce a p-v diagram and partial 3D data. (a') Output node displays the p-v diagram. (b) "Velocity Field" macro, which takes partial 3D data and reference wavelength (corresponds to zero-speed) to generate velocity field map. (b') Output node displays the velocity field map.*

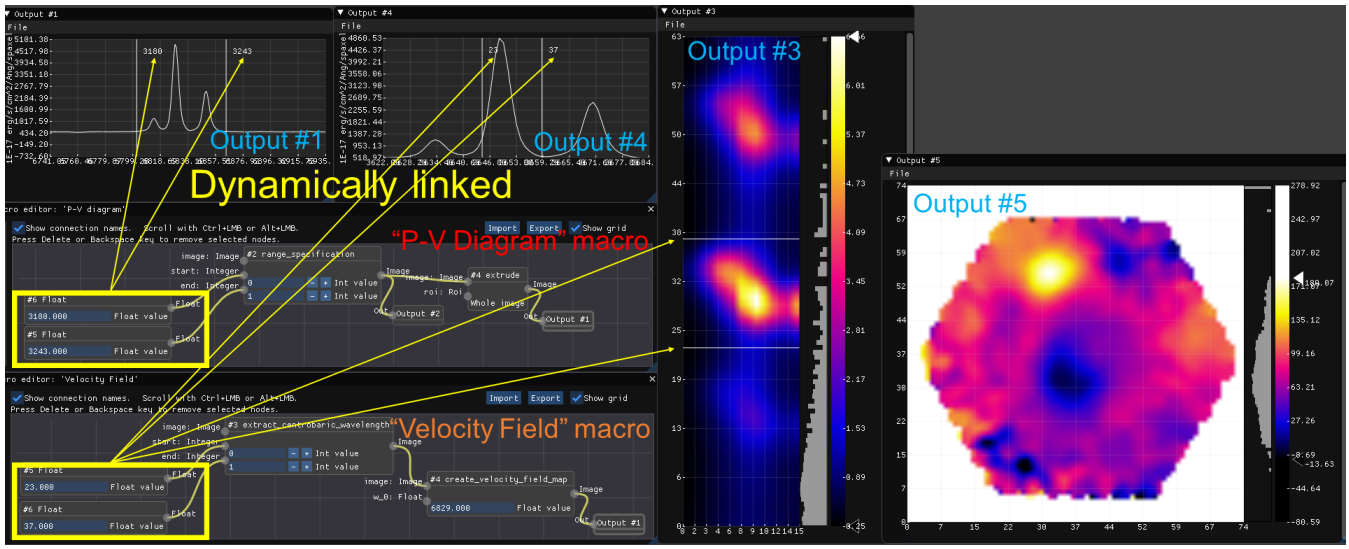

Figure A–2: *"P-V Diagram" macro (left center), "Velocity Field" macro (left lower) and their results (Output #3 and #5). The two values in the "P-V Diagram" macro come from the range limit indices appearing as the vertical lines in the multispectral profile (Output #1), and these are dynamically linked to each other. The center image (Output #3) gives the p-v diagram of* G_A*. The two values in the "Velocity Field" macro come from the two vertical line indices in the multispectral profile (Output #4) or the two horizontal line indices in the middle p-v diagram (Output #3). These are dynamically linked to each other as well.*