

Visual Exploration of Multi-faceted Halo Data Sets

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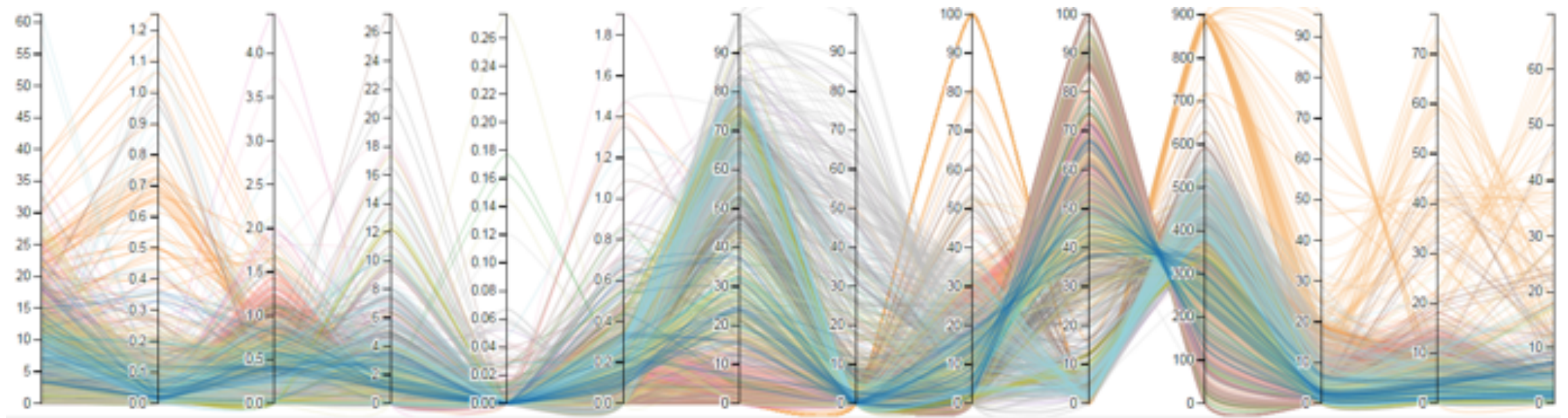
Tasks

- Visualize multi-faceted halo properties
- Facilitate exploration of halos of interest
- Enable easy query specification
- Support responsive and flexible interactions

Visualization Design

- Multiple Linked Views
 - ✓ PCP View
 - ✓ Property View
 - ✓ Halo View

PCP View



Property View

2.96	0.105	0.041	0.0009	0.13	4.3	0.16	11.5	80.57	130	7.158	3.321	0.427
2.05	0.065	0.038	0.0006	0.075	2.79	0.11	37	57.71	345	23.032	10.686	1.374
2.7	0.096	0.04	0.0008	0.122	3.66	0.14	19.31	73.75	195	12.02	5.577	0.717
2.17	0.069	0.034	0.0006	0.097	2.96	0.11	30.91	63.5	292	19.337	9.093	0.884
2.07	0.11	0.08	0.0009	0.141	2.88	3.5	19.73	74.46	193	11.507	5.068	0.84
3.2	0.101	0.13	0	0.147	12.49	8	22.22	61.33	257	13.831	6.418	0.825
0.98	0.005	0.062	0	0.019	16.07	16.07	22.3	60.37	264	18.912	1.927	0.241
6.84	0.251	0.129	0	0.35	55.35	49.74	7.35	28.71	315	4.534	2.143	0.375
4.55	0.13	0.054	0.0015	0.165	8.05	8.41	4.19	82.54	88	2.591	1.302	0.198

Halo View



Software

- **Yt.py** is used to read and process the raw particle data in SDF format
- **D3.js** is used to create the PCP view and the Property view, and support interactions such as brushing and linking
- **WebGL** is used to render the halos in the halo view, and support interactions
- **Node.js** is used to build a server for querying data on demand