SVT Track-Based Alignment - Type 1 tests

Sequence of steps track-based alignment with millepede.



- 2 Extend code for all SVT geometries generalized algorithms.
 - Test on Type 1 events first.
 - Ompare DOCA with reconstruction.
 - Over the second seco

layer	sector	centroid(mm)	DOCA(mm)	recon(mm)
1	1	78.000	0.0684	0.0684
1	6	101.000	-0.0655	-0.0655
2	6	78.526	-0.0908	-0.0908
2	1	101.527	0.0300	0.0300
3	1	80.472	-0.0003	-0.0003
3	8	105.000	0.0068	0.0068
4	8	81.000	0.0215	0.0215
4	1	105.561	-0.0117	-0.0117
5	1	83.492	0.0117	0.0117
5	10	109.000	0.0233	0.0233
6	10	84.000	0.0574	0.0574
6	1	109.504	0.0214	0.0214
7	1	88.000	-0.0596	-0.0596
7	13	115.476	0.0281	0.0281
8	13	89.519	-0.0041	-0.0041
8	1	116.548	-0.0399	-0.0399



SVT Track-Based Alignment - Type 1 tests

Sequence of steps track-based alignment with millepede.



- Extend code for all SVT geometries generalized algorithms.
 - **1** Test on Type 1 events first.
 - Compare DOCA with reconstruction.
 Visualization to the supersolution.
 - Visualization tests successful.

layer	sector	centroid(mm)	DOCA(mm)	recon(mm)
1	1	78.000	0.0684	0.0684
1	6	101.000	-0.0655	-0.0655
2	6	78.526	-0.0908	-0.0908
2	1	101.527	0.0300	0.0300
3	1	80.472	-0.0003	-0.0003
3	8	105.000	0.0068	0.0068
4	8	81.000	0.0215	0.0215
4	1	105.561	-0.0117	-0.0117
5	1	83.492	0.0117	0.0117
5	10	109.000	0.0233	0.0233
6	10	84.000	0.0574	0.0574
6	1	109.504	0.0214	0.0214
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SVT Track-Based Alignment - Type 1 tests

Sequence of steps track-based alignment with millepede.



Extend code for all SVT geometries - generalized algorithms.

- **1** Test on Type 1 events first.
- Compare DOCA with reconstruction.
 Visualization tests successful

	-			
layer	sector	centroid(mm)	DOCA(mm)	recon(mm)
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1	6	101.000	-0.0655	-0.0655
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8	13	89.519	-0.0041	-0.0041
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SVT Track-Based Alignment - Type 2 tests

Test generalized algorithms with Type 2 events.

- 2 Compare DOCA with reconstruction.
- Over the second seco

layer	sector	centroid(mm)	DOCA(mm)	recon(mm)
1	6	25.471	-0.1101	-0.1101
1	10	166.541	0.1940	0.1940
2	10	18.000	0.1083	0.1083
2	6	166.000	-0.0965	-0.0965
3	14	133.000	0.1717	0.1717
3	7	186.512	-0.1631	-0.1631
4	7	3.000	-0.1596	-0.1596
4	14	63.000	0.1624	0.1624
5	18	96.487	0.1665	0.1665
5	9	152.000	-0.0984	-0.0984
6	9	46.000	-0.1023	-0.1023
6	18	110.469	0.1824	0.1824
7	24	34.000	0.1686	0.1686
7	12	95.000	-0.0845	-0.0845
8	12	115.436	-0.0925	-0.0925
8	24	190.000	0.2271	0.2271



SVT Track-Based Alignment - Type 2 tests

Test generalized algorithms with Type 2 events.

- 2 Compare DOCA with reconstruction.
- Over the second seco

layer	sector	centroid(mm)	DOCA(mm)	recon(mm)
1	6	25.471	-0.1101	-0.1101
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SVT Track-Based Geometry Alignment

Equation for distance of closest approach (DOCA) between a cosmic ray hit in the plane of an SVT sector and the nearest strip centroid.



SVT Track-Based Geometry Alignment

Equation for derivative of DOCA with respect to a shift in x (Δx).

