

Metric	Measure	Mocap value (m)				IMU value (m)				Mean error (m)				Percent error				
		Side	P		NP		P		NP		P		NP		P		NP	
			Value	mean	std	mean	std	mean	std	mean	std	mean	std	mean	std	mean	std	mean
SL	Active		1.20194963	0.28973088	1.20242582	0.28862277	1.20632524	0.3208792	1.14741516	0.25225341	0.00437562	0.05638765	-0.0550107	0.11979717	-0.3105708	5.56711461	-3.6260109	7.84415526
	Slack		1.17723759	0.3154546	1.18111121	0.31402291	1.1727572	0.3202405	1.14829712	0.27995579	-0.0044804	0.03470721	-0.0328141	0.14975943	-0.3942655	2.73751072	-1.5926875	9.6080274
MLD	Active		0.05995319	0.02184146	0.02821904	0.01022127	0.06229734	0.01585814	0.02918016	0.01306728	0.00234415	0.01099147	0.00096112	0.00663517	10.3507114	28.3993195	2.00829035	27.4424902
	Slack		0.05887131	0.02494117	0.0251249	0.00769794	0.05852763	0.0212409	0.02843334	0.01168331	-0.0003437	0.00733785	0.00330844	0.00511579	1.56058719	9.89562143	9.11222582	22.2826018
MVD	Active		0.12641552	0.040454	0.17845549	0.01503067	0.11503031	0.03828477	0.14196095	0.03072522	-0.0113852	0.00650754	-0.0364945	0.03594415	-9.6094049	7.22769871	-19.663789	18.5596567
	Slack		0.11945499	0.04004659	0.17771171	0.01654014	0.1081631	0.03460869	0.15392336	0.03827789	-0.0112919	0.0078939	-0.0237883	0.03720197	-9.1257737	4.23306644	-13.140098	19.3847007

Table S1(A): Summary of mean and percenterror between motion capture ground truth and IMU estimates using the angular rate energy (ARE) detector from Skog 2010 tuned for normal gait ($\gamma = 10^{4.6}$, $W = 0.06$ s, $\sigma = 0.01$).

Metric	Measure	Mocap value (m)				IMU value (m)				Mean error (m)				Percent error				
		Side	P		NP		P		NP		P		NP		P		NP	
			Value	mean	std	mean	std	mean	std	mean	std	mean	std	mean	std	mean	std	mean
SL	Active		1.20194963	0.28973088	1.20242582	0.28862277	1.18558651	0.32422451	1.18344649	0.26431983	-0.0163631	0.05557404	-0.0189793	0.09717726	-2.1465618	6.13953945	-0.9273862	6.30195135
	Slack		1.17723759	0.3154546	1.18111121	0.31402291	1.16925362	0.32924723	1.16767819	0.28289284	-0.007984	0.04233284	-0.013433	0.11213162	-0.9264067	3.70187597	-0.2211498	7.31177207
MLD	Active		0.05995319	0.02184146	0.02821904	0.01022127	0.05916344	0.01912476	0.02868182	0.01307409	-0.0007897	0.00532816	0.00046278	0.00602015	-0.0039586	7.27920117	-0.6008415	25.1760402
	Slack		0.05887131	0.02494117	0.0251249	0.00769794	0.05833057	0.0216352	0.02765229	0.01115339	-0.0005407	0.00614481	0.00252739	0.004452	0.77421652	7.40637133	6.27964819	19.8125674
MVD	Active		0.12641552	0.040454	0.17845549	0.01503067	0.11451719	0.04089449	0.15344035	0.0254965	-0.0118983	0.00894775	-0.0250151	0.02610481	-10.771447	11.9021887	-13.681254	13.5368779
	Slack		0.11945499	0.04004659	0.17771171	0.01654014	0.10895482	0.03584749	0.16168427	0.01366324	-0.0105002	0.00770826	-0.0160274	0.0072942	-8.7828717	5.58767767	-8.8620484	3.66885661

Table S1(B): Summary of mean and percenterror between motion capture ground truth and IMU estimates using the angular rate energy (ARE) detector from Skog 2010 tuned for fast gait ($\gamma = 10^{4.5}$, $W = 0.02$ s, $\sigma = 0.01$).