

Full-Field Strain Uncertainties and Residuals at the Cartilage-Bone Interface in Unstained Tissues Using Propagation-Based Phase-Contrast XCT and Digital Volume Correlation

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Table S1. Random errors of each strain component in the articular cartilage region for all the specimens imaged in absorption (ABS), 2×, 3× and/or 4× propagation-based phase-contrast. Values are computed using digital volume correlation (DVC) with a final sub-volume of 48 voxels (~96 μm).

Specimen	Position	Strain Random Errors (μϵ)					
		ε _{xx}	ε _{yy}	ε _{zz}	ε _{xy}	ε _{xz}	ε _{yz}
CB1	ABS	634	347	560	295	286	316
	3×	301	194	212	136	144	131
	1%—3×	276	187	607	128	158	163
CB2	ABS	626	320	373	380	553	347
	2×	595	466	212	199	457	174
	4×	114	73	82	48	81	34
CB3	ABS	375	208	819	264	392	510
	2×	1353	1954	954	1371	665	1236
	4×	470	210	403	232	281	300
CB4	ABS	347	396	651	149	268	322
	2×	331	136	391	169	141	157
	4×	140	115	137	61	118	85
CB5	4×	623	951	315	489	383	810
	1%—4×	705	1782	1298	376	419	1278

Table S2. Random errors of each strain component in the mineralized region for all specimens imaged in absorption (ABS), 2×, 3× and/or 4× propagation-based phase-contrast. Values are computed using digital volume correlation (DVC) with a final sub-volume of 48 voxels (~96 µm).

Specimen	Position	Strain Random Errors (µε)					
		ϵ_{xx}	ϵ_{yy}	ϵ_{zz}	ϵ_{xy}	ϵ_{xz}	ϵ_{yz}
CB1	ABS	239	135	269	97	109	237
	3×	206	91	158	92	110	106
	1%–3×	215	102	412	98	130	146
CB2	ABS	171	219	523	132	248	180
	2×	288	233	380	70	338	193
	4×	48	60	137	39	50	38
CB3	ABS	194	116	963	79	172	236
	2×	657	1241	951	519	697	1863
	4×	139	94	150	74	75	94
CB4	ABS	222	170	521	69	185	187
	2×	68	78	292	57	81	123
	4×	150	82	105	36	52	96
CB5	4×	153	300	242	69	190	455
	1%–4×	173	331	293	86	234	499



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