

TABLE I: The μ_i for the He atom figures in the paper “Time-dependent density functional theory of high excitations: To infinity, and beyond” by Meta van Faassen and Kieron Burke. The coefficients fit the quantum defect and π times the phase shift. The ionization energies are in [a.u.]. The reference results are from Ref. [1].

		<i>s</i>			<i>p</i>		
		EXX	Exact	Reference	EXX	Exact	Reference
<i>I</i>		0.9179	0.9037	0.9037			
KS	μ_0	0.2167	0.2135		0.0232	0.0162	
	μ_1	-0.0404	-0.0377		0.0280	0.0241	
	μ_2	0.0095	0.0071		-0.0183	-0.0097	
	μ_3				0.0066	0.0019	
Singlet Hartree	μ_0		0.0531	0.1399		-0.0803	-0.0120
	μ_1		-0.0415	-0.0528		-0.0270	-0.0146
	μ_2		0.0698	0.0358		0.0815	0.0343
	μ_3		-0.0310			-0.0393	-0.0139
Singlet EXX	μ_0		0.1196	0.1399		-0.0383	-0.0120
	μ_1		-0.0081	-0.0528		0.0064	-0.0146
	μ_2		0.0078	0.0358		0.0372	0.0343
	μ_3					-0.0210	-0.0139
Triplet EXX	μ_0		0.3432	0.2967		0.0918	0.0682
	μ_1		-0.1851	-0.0764		0.0041	0.0365
	μ_2		0.1499	0.0167		-0.0297	-0.0477
	μ_3		-0.0630			0.0173	0.0206
Singlet ALDAx	μ_0		0.1074	0.1399			
	μ_1		-0.0372	-0.0528			
	μ_2		0.0860	0.0358			
	μ_3		-0.0446				
Triplet ALDAx	μ_0		0.3043	0.2967			
	μ_1		-0.1109	-0.0764			
	μ_2		0.0910	0.0167			
	μ_3		-0.0411				
Singlet ALDA	μ_0	0.1154	0.1114	0.1399		0.0007	-0.0120
	μ_1	-0.0545	-0.0539	-0.0528		-0.0992	-0.0146
	μ_2	0.1074	0.1090	0.0358		0.1947	0.0343
	μ_3	-0.0547	-0.0560			-0.1005	-0.0139
Triplet ALDA	μ_0	0.2754	0.2728	0.2967		0.0731	0.0682
	μ_1	-0.0655	-0.0658	-0.0764		-0.0042	0.0365
	μ_2	0.0188	0.0190	0.0167		0.0108	-0.0477
	μ_3					-0.0064	0.0206
Singlet hybrid	μ_0		0.1265	0.1399		-0.0273	-0.0120
	μ_1		-0.0271	-0.0528		-0.0187	-0.0146
	μ_2		0.0440	0.0358		0.0755	0.0343
	μ_3		-0.0227			-0.0417	-0.0139
Triplet hybrid	μ_0		0.3240	0.2967		0.0644	0.0682
	μ_1		-0.1409	-0.0764		0.0541	0.0365
	μ_2		0.0549	0.0167		-0.1043	-0.0477
	μ_3					0.0572	0.0206

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- [1] G. W. F. Drake in *Atomic, Molecular, and Optical Physics Handbook*, ed. G. W. F. Drake; AIP Press, Woodbury, NY, 1996; p. 154.