

Calcium references

I. LEVELS

State	E (THz)	$\Gamma/2\pi$	A_{HF} (MHz)	B_{HF} (MHz)	Decay	λ (nm)	A_{ki} (s^{-1})
$4s^2\ ^1S_0$	0	0	0	0			
$4s4p\ ^3P_0$	454.42244		0	0	$4s^2\ ^1S_0$	659.72195	
$4s4p\ ^3P_1$	455.98621	0.33 kHz[1]	$-198.5(11)[2]$	$2(9)[2]$	$4s^2\ ^1S_0$	657.45947	$2.1 \times 10^3[1]$
$4s4p\ ^3P_2$	459.16042				$4s^2\ ^1S_0$	652.91442	
$3d4s\ ^3D_1$	609.63876				$4s^2\ ^1S_0$	491.75426	
$3d4s\ ^3D_2$	610.05547				$4s^2\ ^1S_0$	491.41836	
$3d4s\ ^3D_3$	655.03555				$4s^2\ ^1S_0$	491.41836	
$3d4s\ ^1D_2$	610.70722				$4s^2\ ^1S_0$	457.67357	
$4s4p\ ^1P_1$	709.2779[1]	34.7 MHz[1]			$4s^2\ ^1S_0$	422.6728[1]	$218 \times 10^6[1]$
$4s5s\ ^3S_1$	945.53027				$4s4p\ ^3P_0$	610.44121	$9.855 \times 10^6[3]$
					$4s4p\ ^3P_1$	612.39117	$29.278 \times 10^6[3]$
					$4s4p\ ^3P_2$	616.38783	$47.845 \times 10^6[3]$
$4s5s\ ^1S_0$	998.82644		0	0			
$3d4p\ ^3F_2$	1071.1721						
$3d4p\ ^3F_3$	1073.8180						
$3d4p\ ^1D_2$	1074.3187						
$3d4p\ ^3F_4$	1076.1617						
$4s5p\ ^3P_0$	1095.6721		0	0			
$4s5p\ ^3P_1$	1095.8838						
$4s5p\ ^3P_2$	1096.4945						
$4s5p\ ^1P_1$	1101.1861				$4s^2\ ^1S_0$	272.24504	$0.27 \times 10^6[3]$
$4s4d\ ^1D_2$	1118.1745						
$4s4d\ ^3D_1$	1131.6625						
$4s4d\ ^3D_2$	1131.7725						
$4s4d\ ^3D_3$	1131.9398						
$3d4p\ ^3D_1$	1144.9791						
$3d4p\ ^3D_2$	1145.7803						
$3d4p\ ^3D_3$	1146.9797						
$4p^2\ ^3P_0$	1151.7290		0	0			
$4p^2\ ^3P_1$	1153.1459						
$4p^2\ ^3P_2$	1155.7466						

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- [1] M. Machholm, P. S. Julienne, and K.-A. Suominen, *Physical Review A* **64**, 033425 (2001).
[2] U. Klingbeil, J. Kowalski, F. Träger, H. B. Wiegemann, and G. zu Putlitz, *Zeitschrift für Physik A Atoms and Nuclei* **290**, 143 (1979).
[3] X. Zhou, X. Xu, X. Chen, and J. Chen, *Physical Review A* **81**, 012115 (2010).