

Relative intensities in some LS multiplets

The (normally) very intense “diagonal” in the multiplets is shown in red

	$^2S_{1/2}$	$^2P_{1/2}$	$^2P_{3/2}$	$^2D_{3/2}$	$^2D_{5/2}$
$^2P_{1/2}$	1	2	1	5	---
$^2P_{3/2}$	2	1	5	1	9

	$^2D_{3/2}$	$^2D_{5/2}$	$^2F_{5/2}$	$^2F_{7/2}$	$^2G_{7/2}$	$^2G_{9/2}$
$^2F_{5/2}$	14	1	20	1	27	--
$^2F_{7/2}$	--	20	1	27	1	35

	3S_1	3P_0	3P_1	3P_2	3D_1	3D_2	3D_3
3P_0	1	--	4	--	20	--	--
3P_1	3	4	3	5	15	45	--
3P_2	5	--	5	15	1	15	84

	3D_1	3D_2	3D_3	3F_2	3F_3	3F_4	3G_3	3G_4	3G_5
3F_2	189	35	1	640	80	--	720	--	--
3F_3	--	280	35	80	847	81	63	945	--
3F_4	--	--	405	--	81	1215	1	63	1232