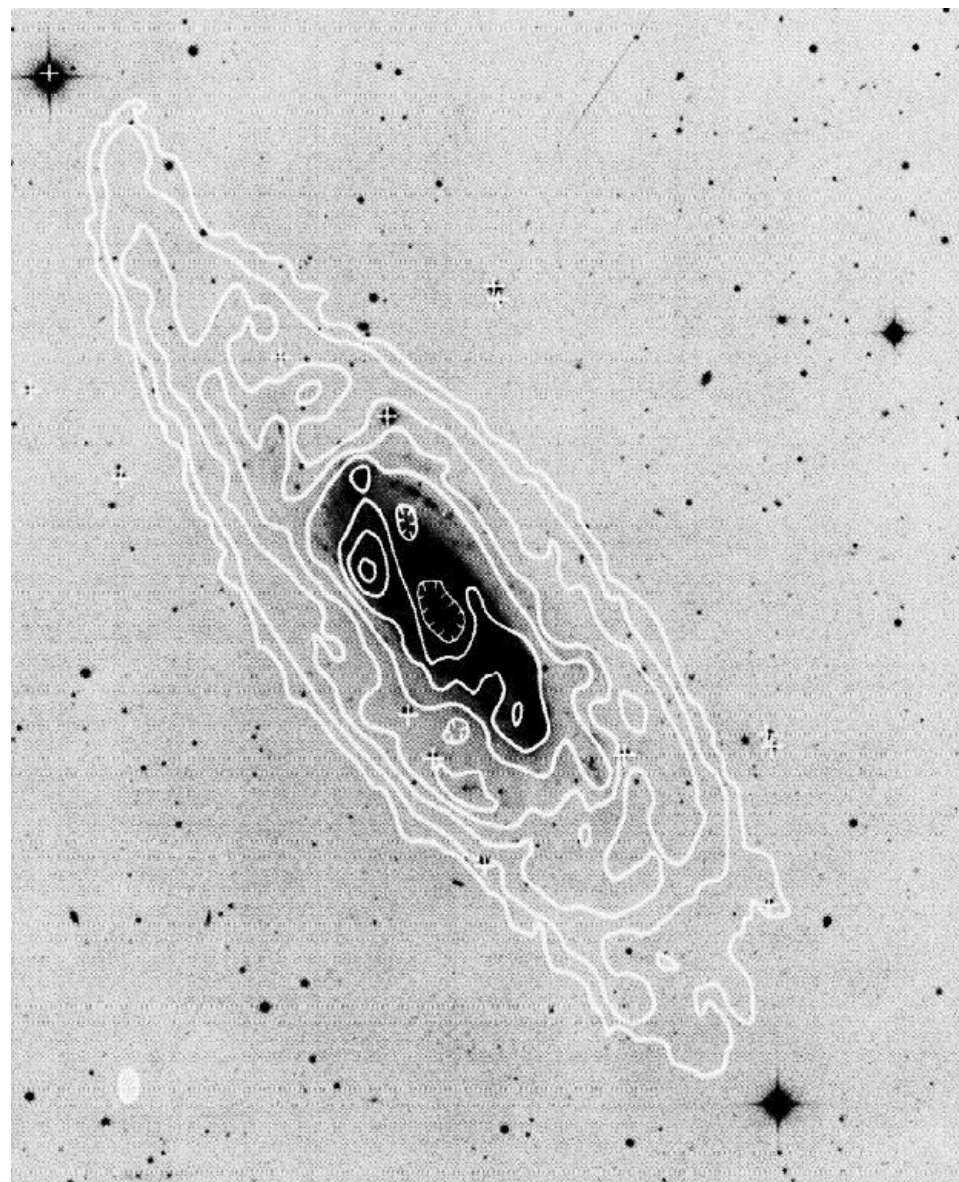
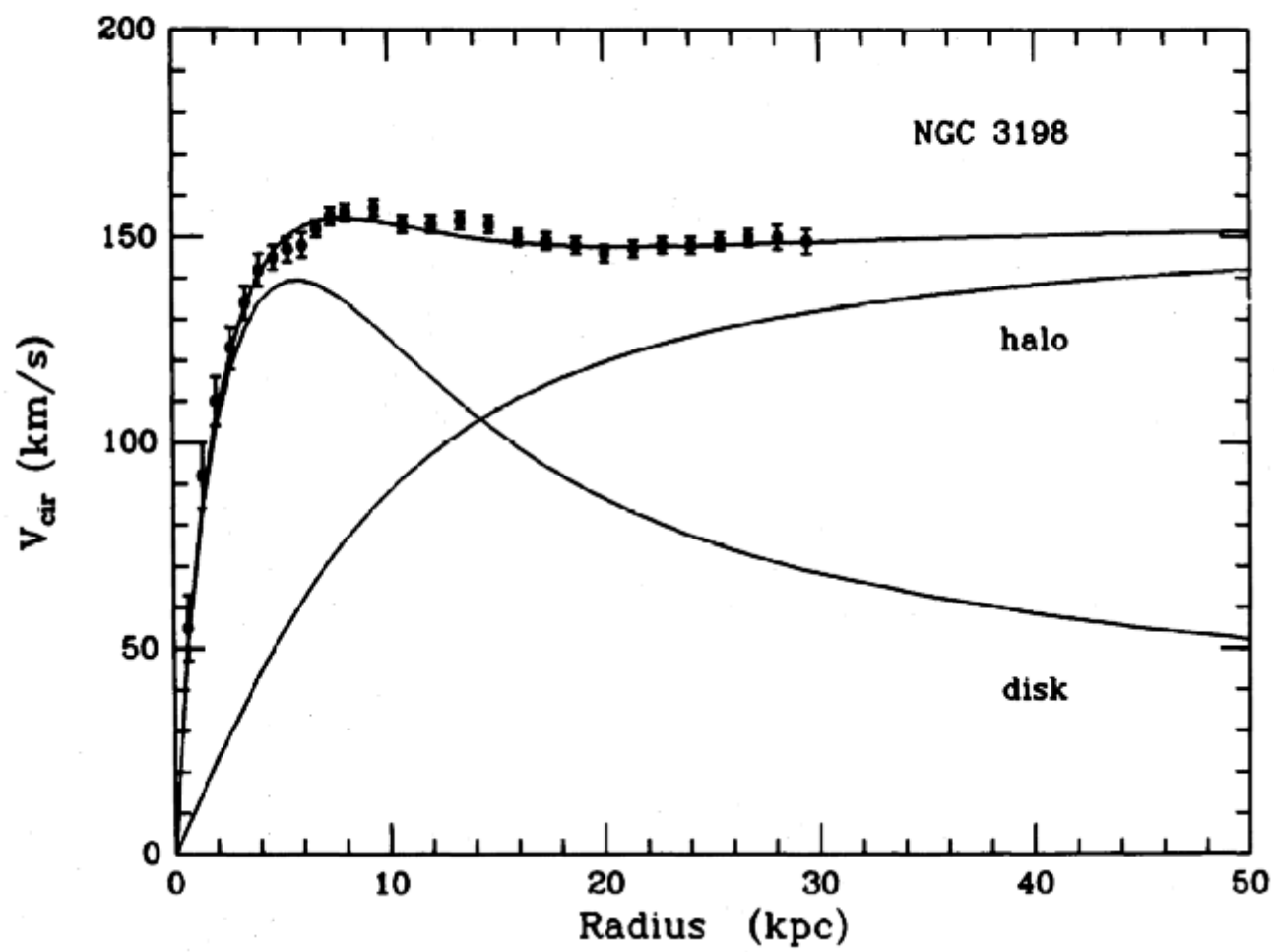
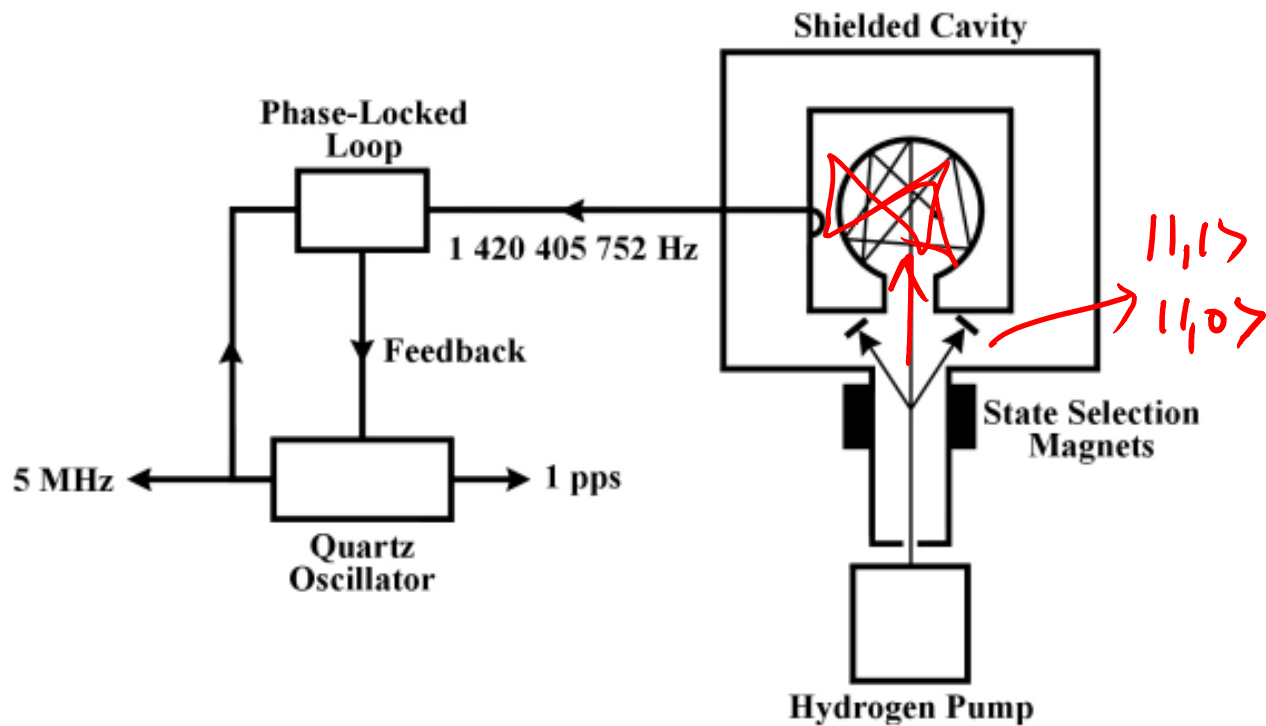




DISTRIBUTION OF DARK MATTER IN NGC 3198





$$\begin{aligned}
 & \text{--- } F=1 \quad m_F = -1, 0, 1 \\
 & \text{--- } F=0 \quad m_F = 0
 \end{aligned}
 \quad \text{--- } \begin{array}{c} 0 \\ 1 \\ 0 \end{array} \begin{array}{c} 0 \\ 1 \\ 0 \end{array} \begin{array}{c} F=1 \\ F=0 \end{array}$$

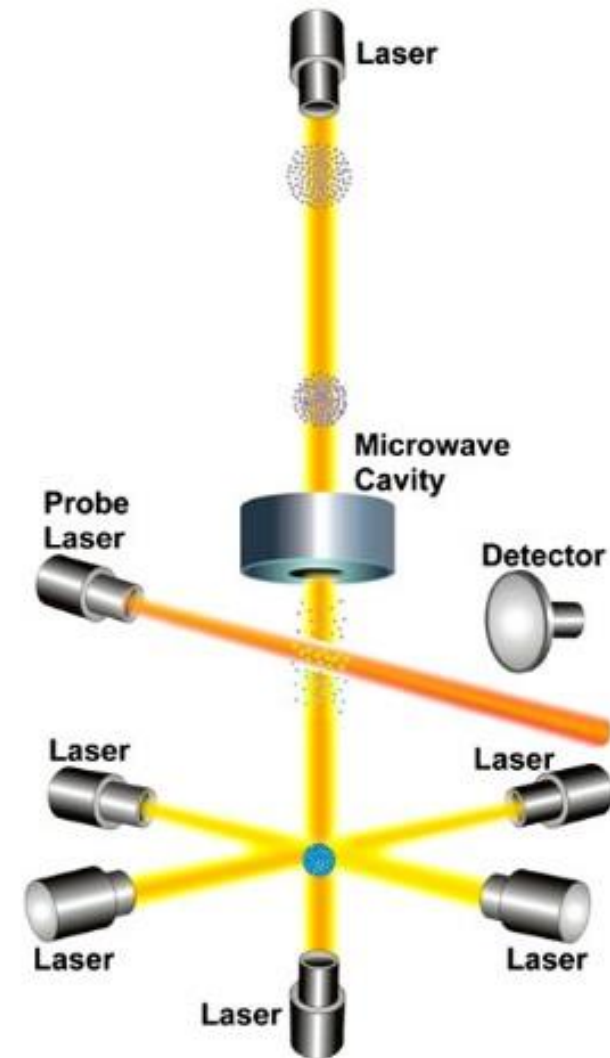
nS $nP_{1/2}$ $nP_{3/2}$

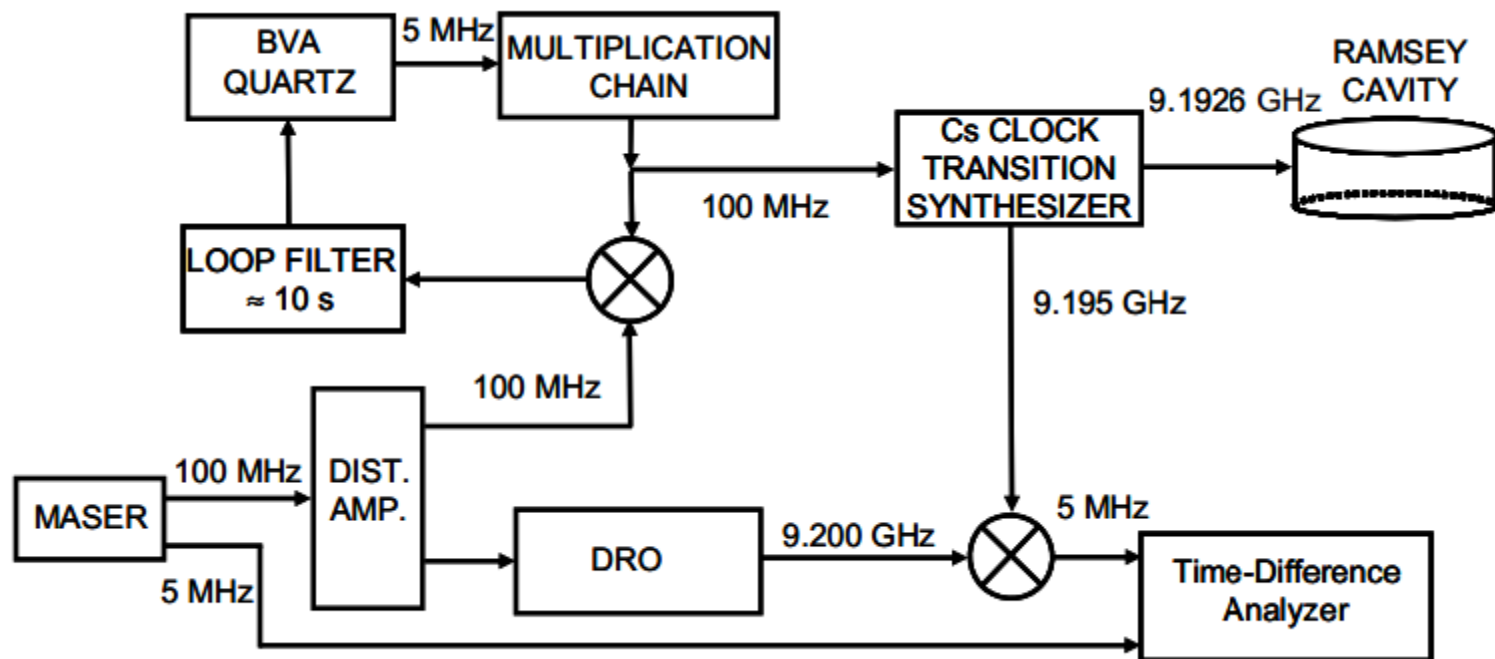
Element	Abundance	I	F_g ($J_g=1/2$)	A (MHz)	ΔE_{fs} (GHz)	F_e ($J_e=1/2$)	A (MHz)	F_e ($J_e=3/2$)	A (MHz)	B (MHz)
^1H	99.985	$1/2$		1420.405	10.968		59.18		23.67	—
^6Li	7.5	1		152.137			17.375		-1.155	-0.10
^7Li	92.5	$3/2$		401.752	10.091		45.914		-3.055	-0.221
^{23}Na	100	$3/2$		885.813	515.53		94.3		18.69	2.90
^{39}K	93.26	$3/2$		230.859	1730.4		28.85		6.06	2.83
^{40}K	0.0117	4		-285.731			—		-7.59	-3.5
^{41}K	6.73	$3/2$		127.007			—		3.40	3.34
^{85}Rb	72.17	$5/2$		1011.910	7123.0		120.72		25.009	25.88
^{87}Rb	27.83	$3/2$		3417.341			406.2		84.845	12.52
^{133}Cs	100	$7/2$		2298.157	16611.8		291.90		50.34	-0.38

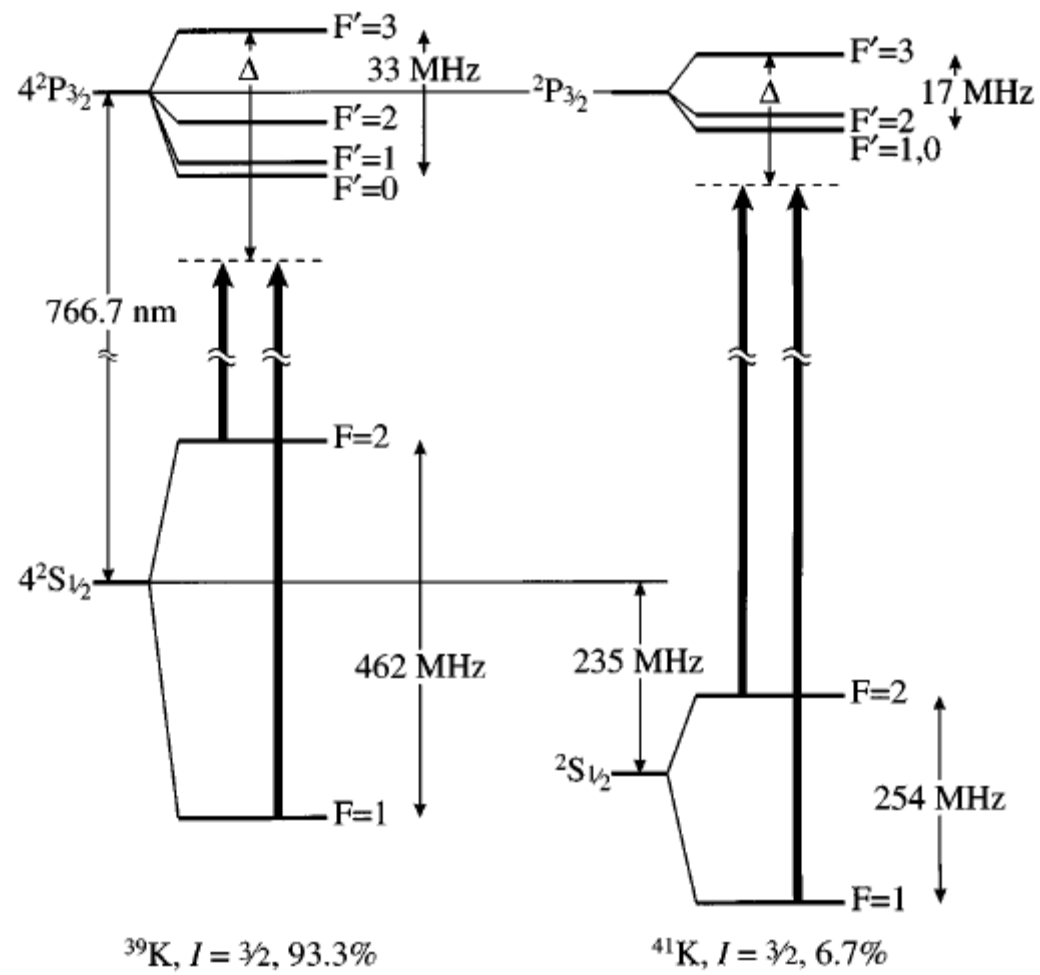
TABLE C.4. Fine- and hyperfine structure constants for the various alkali-metal atoms. The parameters A and B can be used in Eqs. 4.2 and 4.3 to calculate the shift and the splitting from the hyperfine interaction. The values for A and B are from Ref. 28.



NIST F1



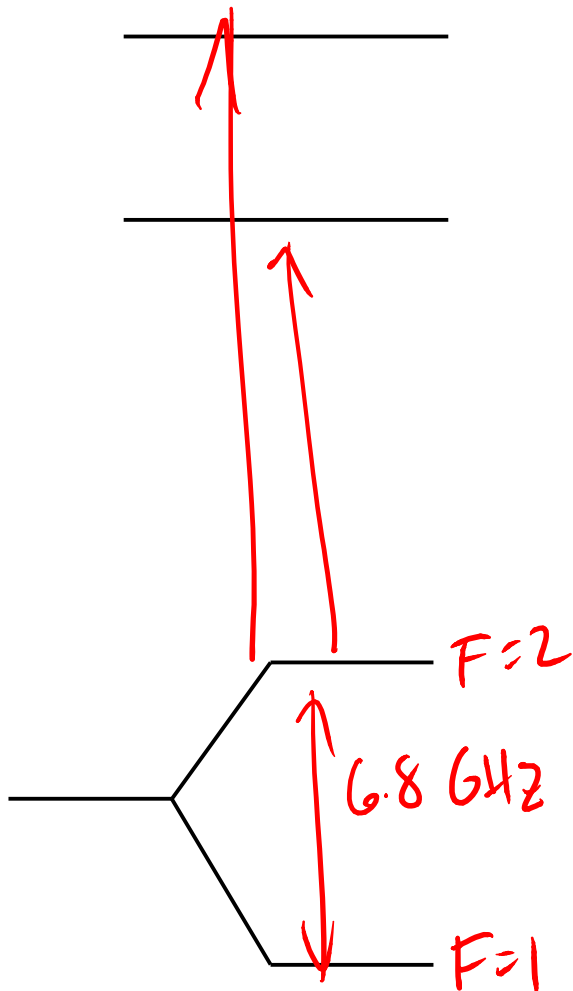




$5P_{3/2}$

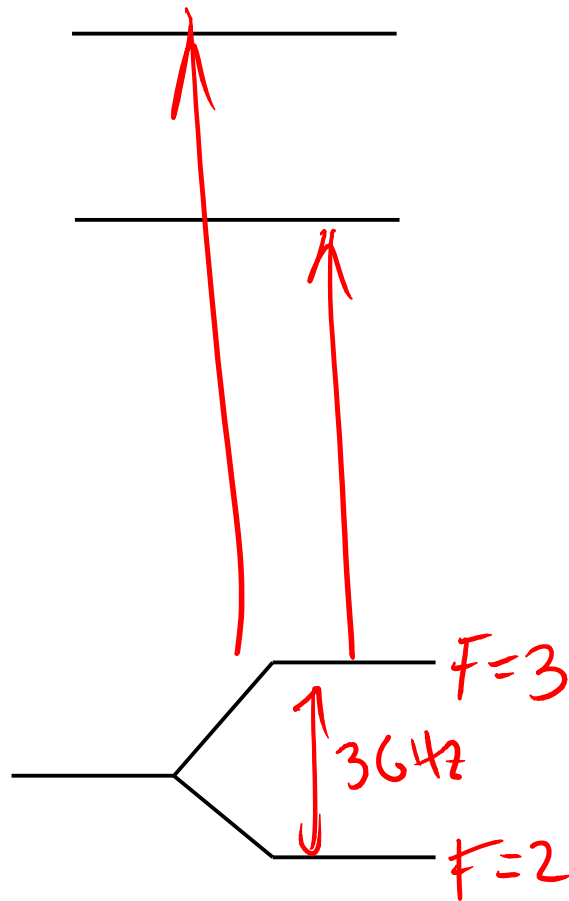
$5P_{1/2}$

$5S$



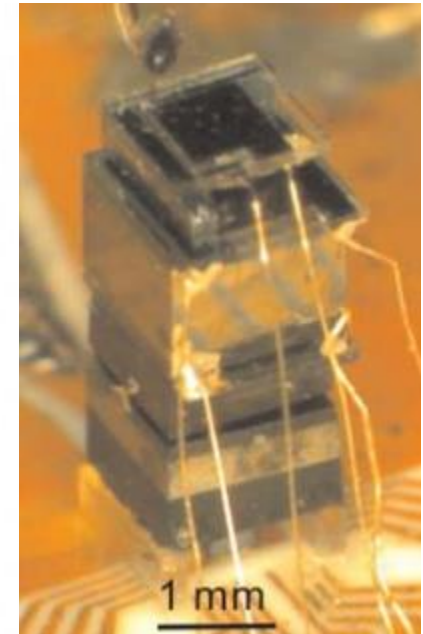
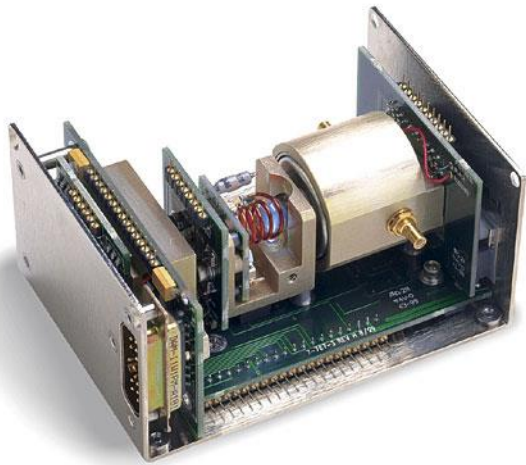
^{87}Rb

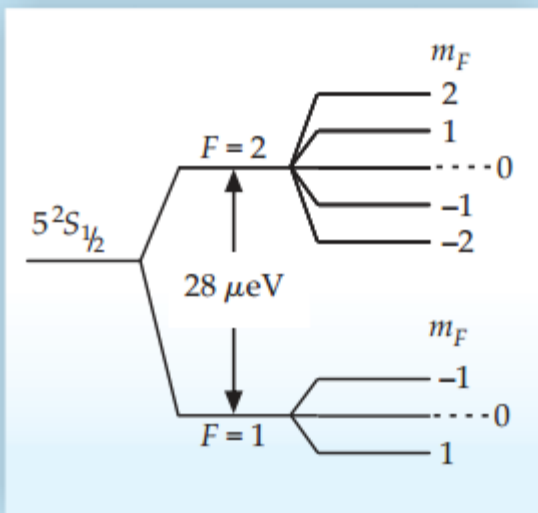
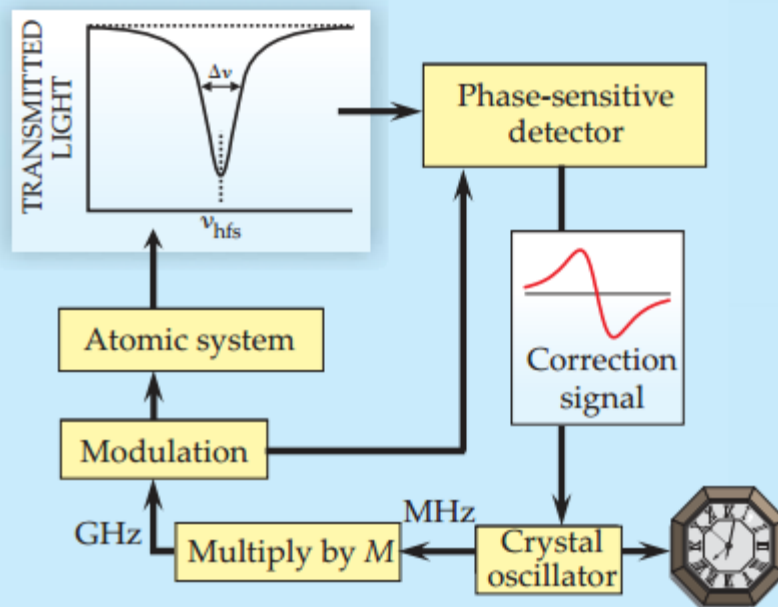
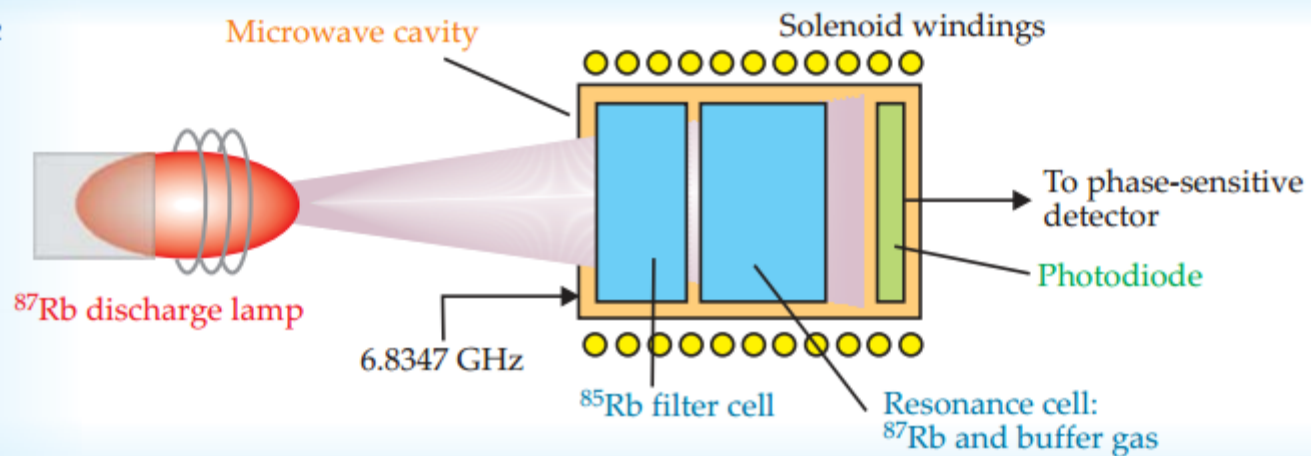
$I=3/2$

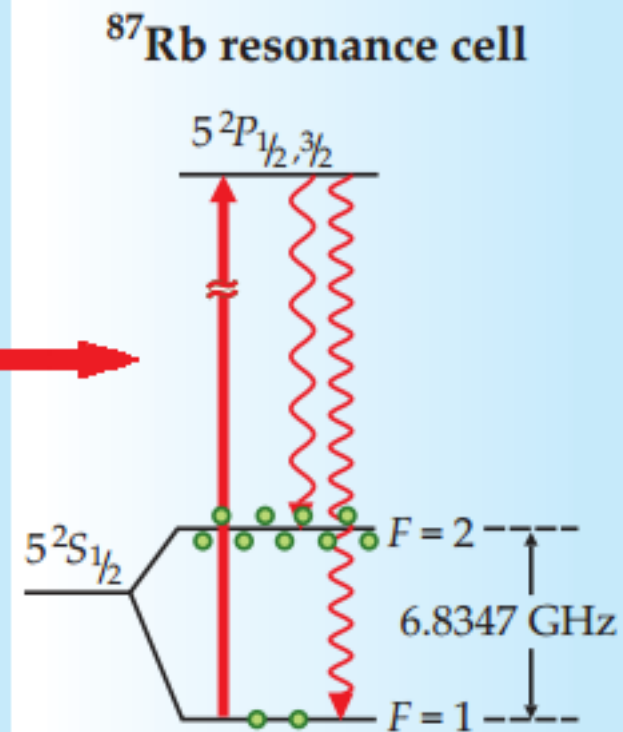
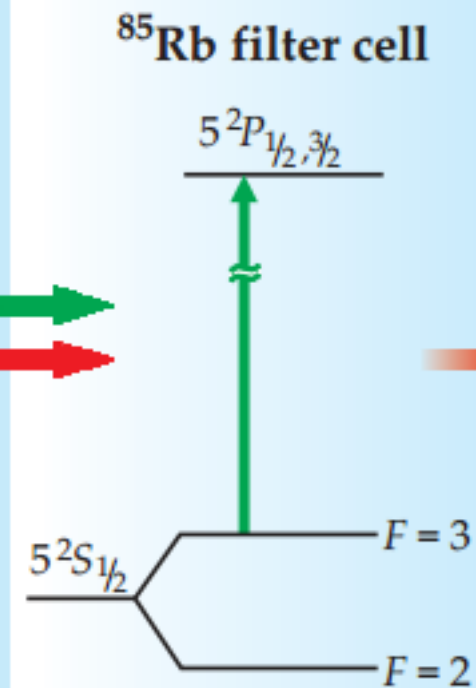
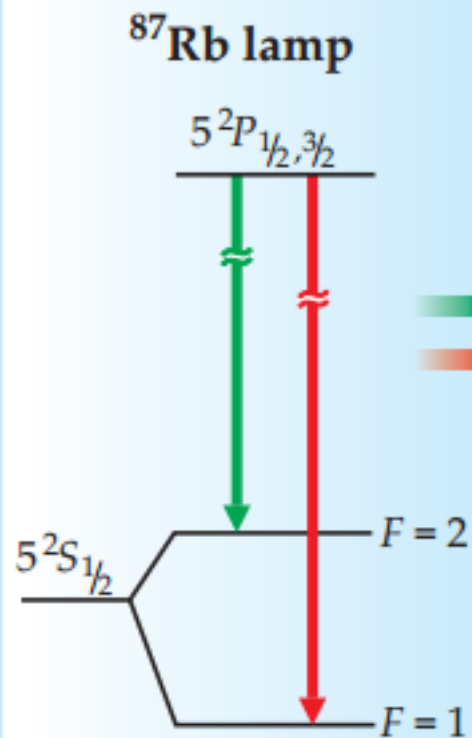


^{85}Rb

$I=5/2$



a**b****c**



optical pumping
hyperfine pumping