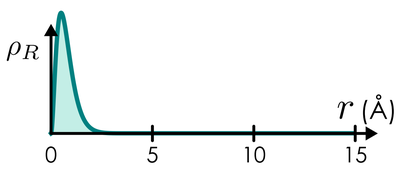
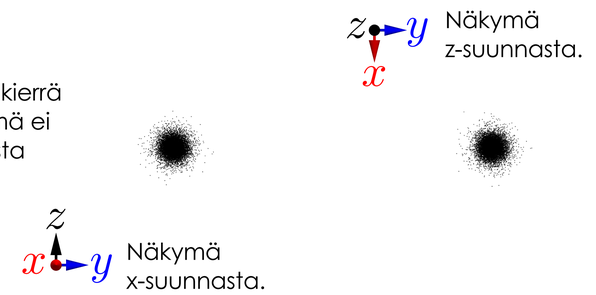
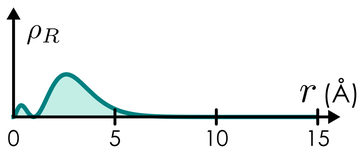
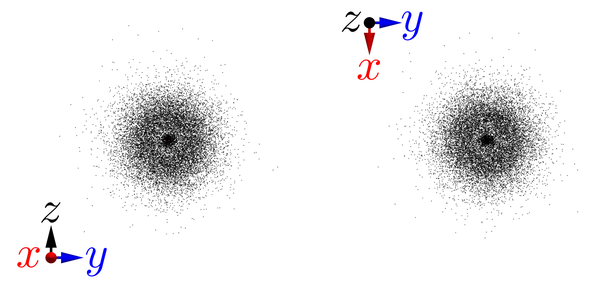
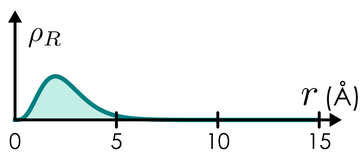
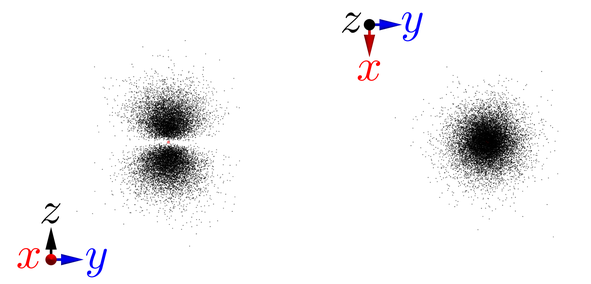
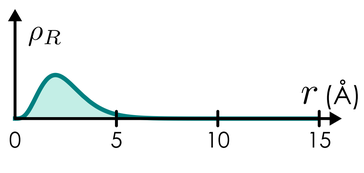
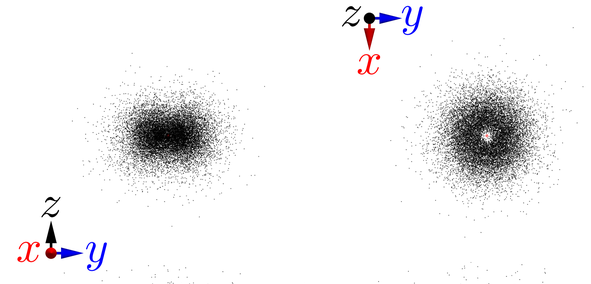
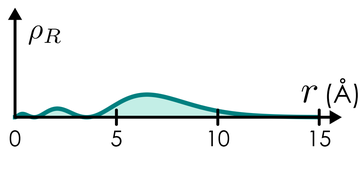
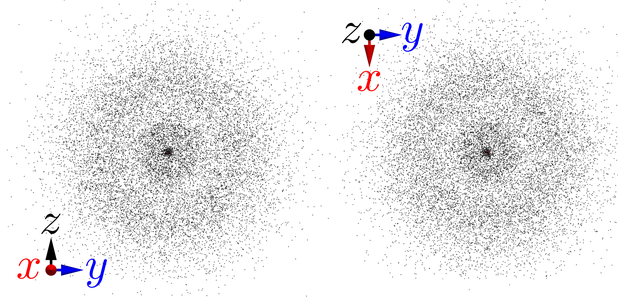
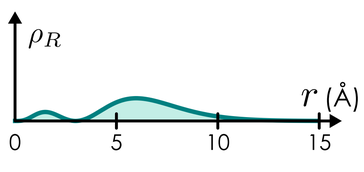
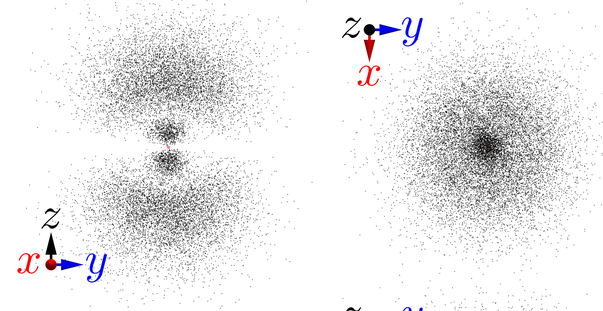
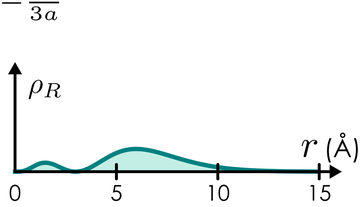
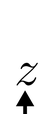
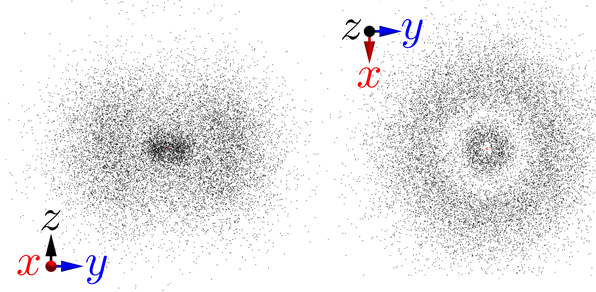
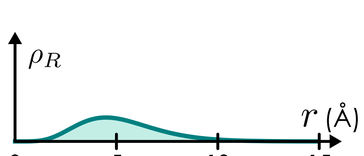
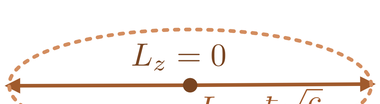
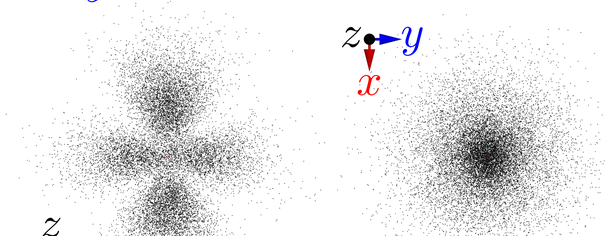
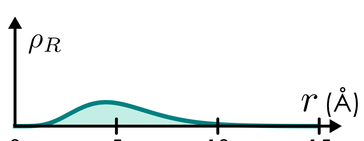
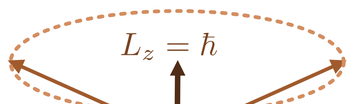
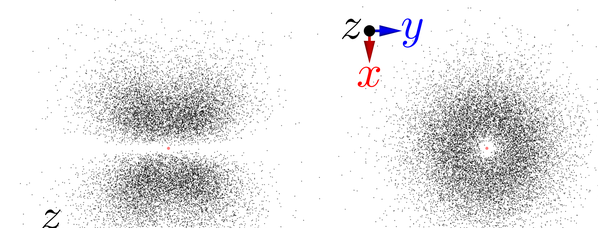
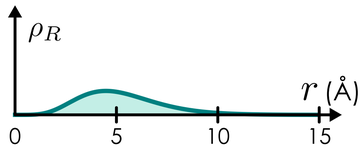
tila	aaltofunktio	etäisyys	energia	kulmaliikemäärä	paikka
$\|n,l,m\rangle$	$\psi_{nlm}(r,\phi,\theta) = R_{nl}(r)Y_l^m(\phi,\theta)$				
$\|1,0,0\rangle$	$R_{10}(r) = \frac{2}{a^{3/2}}e^{-\frac{r}{a}}$ $Y_0^0(\phi,\theta) = \frac{1}{\sqrt{4\pi}}$		-13.60 eV	 $L_z = 0$ $L = 0$ Hiukkanen ei kierrä lainkaan. Tämä ei olisi mahdollista klassisesti.	
$\|2,0,0\rangle$	$R_{20}(r) = \frac{1}{2\sqrt{2}a^{3/2}}\left(2-\frac{r}{a}\right)e^{-\frac{r}{2a}}$ $Y_0^0(\phi,\theta) = \frac{1}{\sqrt{4\pi}}$		-3.40 eV	 $L_z = 0$ $L = 0$	
$\|2,1,0\rangle$	$R_{21}(r) = \frac{1}{2\sqrt{6}a^{3/2}}\frac{r}{a}e^{-\frac{r}{2a}}$ $Y_1^0(\phi,\theta) = \sqrt{\frac{3}{4\pi}}\cos\theta$		-3.40 eV	 $L_z = 0$ $L = \hbar\sqrt{2}$	
$\|2,1,\pm1\rangle$	$R_{21}(r) = \frac{1}{2\sqrt{6}a^{3/2}}\frac{r}{a}e^{-\frac{r}{2a}}$ $Y_1^{\pm1}(\phi,\theta) = \mp\sqrt{\frac{3}{8\pi}}\sin\theta e^{\pm i\phi}$		-3.40 eV	 $L_z = \hbar$ $L = \hbar\sqrt{2}$ Tämä on tila m = 1. Tilassa m = -1 vektori osoittaa alaspäin.	
$\|3,0,0\rangle$	$R_{30}(r) = \frac{2}{81\sqrt{3}a^{3/2}}\left(27-18\frac{r}{a}+2\frac{r^2}{a^2}\right)e^{-\frac{r}{3a}}$ $Y_0^0(\phi,\theta) = \frac{1}{\sqrt{4\pi}}$		-1.51 eV	 $L_z = 0$ $L = 0$	
$\|3,1,0\rangle$	$R_{31}(r) = \frac{4}{81\sqrt{6}a^{3/2}}\left(6\frac{r}{a}-\frac{r^2}{a^2}\right)e^{-\frac{r}{3a}}$ $Y_1^0(\phi,\theta) = \sqrt{\frac{3}{4\pi}}\cos\theta$		-1.51 eV	 $L_z = 0$ $L = \hbar\sqrt{2}$	
$\|3,1,\pm1\rangle$	$R_{31}(r) = \frac{4}{81\sqrt{6}a^{3/2}}\left(6\frac{r}{a}-\frac{r^2}{a^2}\right)e^{-\frac{r}{3a}}$ $Y_1^{\pm1}(\phi,\theta) = \mp\sqrt{\frac{3}{8\pi}}\sin\theta e^{\pm i\phi}$		-1.51 eV	 $L_z = \hbar$ $L = \hbar\sqrt{2}$	
$\|3,2,0\rangle$	$R_{32}(r) = \frac{4}{81\sqrt{30}a^{3/2}}\frac{r^2}{a^2}e^{-\frac{r}{3a}}$ $Y_2^0(\phi,\theta) = \sqrt{\frac{5}{16\pi}}(3\cos^2\theta-1)$		-1.51 eV		
$\|3,2,\pm1\rangle$	$R_{32}(r) = \frac{4}{81\sqrt{30}a^{3/2}}\frac{r^2}{a^2}e^{-\frac{r}{3a}}$ $Y_2^{\pm1}(\phi,\theta) = \mp\sqrt{\frac{15}{8\pi}}\sin\theta\cos\theta e^{\pm i\phi}$		-1.51 eV		
$\|3,2,\pm2\rangle$	$R_{32}(r) = \frac{4}{81\sqrt{30}a^{3/2}}\frac{r^2}{a^2}e^{-\frac{r}{3a}}$ $Y_2^{\pm2}(\phi,\theta) = \sqrt{\frac{15}{32\pi}}\sin^2\theta e^{\pm i2\phi}$		-1.51 eV