## Physics Laboratory Report Rolling Motion

Name		Date		
eration of the hoo, measured or f mp, relative to loo end above floo	oop about the centrom fitting funct thorizontal or, used to compu	ion		
as a function of	tilt angle and oth	ner known param		•
		L		
а	α	R	φ	a/\alpha R
	ation of the centeration of the hop, measured or famp, relative to be end above flow ramp, used to contain a function of the contains a function of the contains and be a second	extion of the center of the hoop eration of the hoop about the cerp, measured or from fitting function, relative to horizontal end above floor, used to compute a ramp, used to compute $\phi$ .  Explosion by the center of the hoop and the end above and below the critical and other than the center of	extion of the center of the hoop eration of the hoop about the center of the horizontal of end above floor, used to compute $\phi$ framp, used to compute $\phi$ describes the sheet with your derivations of the following quality as a function of tilt angle and other known parameters above and below the critical angle $L = L$	exition of the center of the hoop exaction of the hoop about the center of the horizontal of end above floor, used to compute $\phi$ aramp, used to compute $\phi$ aramp, used to compute $\phi$ as a function of tilt angle and other known parameters, both above the above and below the critical angle $\frac{L}{L}$

Attach an example of the data and fits used to find $a$ and $\alpha$ . Are the accelerations constant as expected?
Data analysis Plot $a/\alpha R$ vs tan $\phi$ , and determine the critical angle for slipping.
Is a plot of $a$ vs sin $\phi$ linear below the critical angle, with the expected slope?
Is a plot of $\alpha$ vs cos $\phi$ linear above the critical angle? Is the value of $\mu$ deduced from the slope reasonable?
Attach the plots to your report to support your analysis.
Are your results consistent with the model of rolling suggested in the lab manual?