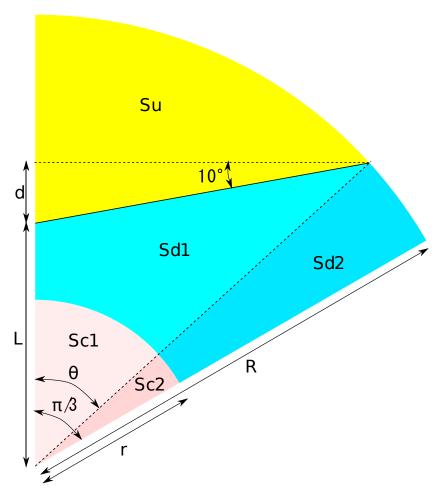
Derivation of the equation to equalize areas of the right upper region and the right lower region of a Tri-Bahtinov mask



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\begin{split} &d = R*sin\theta*tan10°\\ &L = R*cos\theta-d = R*(cos\theta-sin\theta*tan10°)\\ &(Su+Sd1+Sd2) = (R*R-r*r)*(\pi/6)\\ &(Su+Sd1+Sc1) = R*R*\theta/2\\ &(Sc1+Sc2) = \pi*r*r/6\\ &(Sd2+Sc2) = (1/2)*R*R*(\pi/3-\theta)\\ &(Sd1+Sc1) = (L/2)*R*sin\theta\\ &= (1/2)*R*R*(sin\theta*cos\theta-sin\theta*sin\theta*tan10°)\\ &(Sd1+Sd2) = (Sd2+Sc2)+(Sd1+Sc1)-(Sc1+Sc2)\\ &= (1/2)*R*R*(\pi/3-\theta+sin\theta*cos\theta-sin\theta*sin\theta*tan10°)-(\pi/6)*r*r \end{split}
```

## Equation on $\theta$ :

 $\begin{array}{l} (Su+Sd1+Sd2) = 2*(Sd1+Sd2) \\ (R*R-r*r)*(\pi/6) = R*R*(\pi/3-\theta+\sin\theta*\cos\theta-\sin\theta*\sin\theta*\tan10^\circ)-(\pi/3)*r*r \\ (1-r*r/(R*R))*(\pi/6) = \theta-\sin\theta*\cos\theta+\sin\theta*\sin\theta*\tan10^\circ \end{array}$