

Abstract Submitted  
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**The density of a black hole is a constant**<sup>1</sup> HAN YONG QUAN,  
Huairou District NO.1 high school — the volume formula  $V=(4/3)\pi R^3$ , the density  
of the stars  $\rho =M/V$ . From the density formula, we can see: the density and radius  
of the stars in the process of star change According to the law of conservation of  
angular momentum,  $MVR=MC^2R$ , so  $V^3R^3 =C^3R_s^3$ . Conclusion: The radius cube  
is inversely proportional to the cube of the spin speed, and the density is inversely  
proportional to the cube of the radius. Then the density must be proportional to  
the cube of the velocity. Proportional:  $\rho =KV^3$ . The speed of the black hole's  
rotation is the speed of light, so the density of the black hole  $\rho =KC^3$  where K is the  
constant of proportionality and C is the speed of light, so the density of the black  
hole is a constant. The density of the sun is:  $1.40810\text{kg/m}^3$ , and the speed of the  
sun's rotation is  $210^3$  m/s, substitute  $\rho =KV^3$  to calculate  $K=1.7610^{-7}$ , substitute  
 $\rho =KC^3 =1.7610^{-7}(310^8)^3=4.75210^{18}(\text{kg/m}^3)$

<sup>1</sup>The density of a black hole is a constant

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