

IMM - DTU

02405 Probability

2003-10-17

We denote the radius of the circle by $\rho_{\text{BFN}/\text{bfn}}$

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We denote the radius of the circle by r . The area of the circle is πr^2 .

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We denote the radius of the circle by ρ . The area of the circle is $\pi\rho^2$.
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$$F_R(r)$$

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We denote the radius of the circle by R_1 . The area of the circle is πR_1^2 .
For a random point to be within radius r it has to be within the circle of radius r with area πr^2 . We find the probability as the fraction of these two areas

$$F_R(r) = P(R_1 \leq r)$$

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$$F_R(r) = P(R_1 \leq r) = \frac{r^2}{\rho^2}$$

with density (page 333)

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With R_1 and R_2 independent

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With R_1 and R_2 independent we have the joint density from (2) page 350

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$$P\left(R_2 \leq \frac{R_1}{2}\right)$$

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