Random geometric b а C n = 60 $10^{-1} \\ 10^{-2} \\ 10^{-3} \\ 10^{-4}$ LV 0.6 **CLV** Frequency **MDG** 0.4 **RPP** 18 22 0.2 Luby **Uniform** Blelloch 0.0 18 0.3 1.2 1.5 16 20 22 0.0 0.6 |5| d f e $\frac{\log(n)}{\pi n}$, $\langle k \rangle \approx \log(n)$ $r = \sqrt{\frac{\log(n)}{\pi n}}, \langle k \rangle \approx \log(n)$ $\frac{\log(n)}{\pi n}$, $\langle k \rangle \approx \log(n)$ 1.00 1.00 Approximation factor Percentage MIS 0.75 0.20 0.95 Worst-case 0.6 0.90 0.4 0.85 0.00 0.2 200 150 50 100 150 200 50 100 150 200 0 50 100 0 Size (n) Size (n) Size (n) h g r = 1/2, $\langle k \rangle \approx \frac{n\pi}{4}$ r = 1/2, $\langle k \rangle \approx \frac{n\pi}{4}$ r=1/2, $\langle k \rangle \approx \frac{n\pi}{4}$ 1.00 Approximation factor Percentage MIS 0.70 0.20 0.25 0.6 Worst-case 0.9 0.4 8.0 0.2 0.7 0.00 150 50 150 150 0 50 100 200 100 200 50 100 200 0 Size (n) Size (n) Size (n)