

## 1 Test matrices

Matrix	Patt. symm.	Num. symm.	Diag. dom.	Pos. def.	NNZ	$n$	Condition	Conn. comp.
<i>add20</i>	100%	52.7%	0%	No	13,151	2,395	1.204710e+04	1
<i>c-20</i>	100%	100%	0.48%	No	20,445	2,921	1.049837e+12	1
<i>cryg2500</i>	99.5%	0%	8.44%	No	12,349	2,500	3.631392e+16	1
<i>dw2048</i>	98.5%	94.8%	0%	No	10,114	2,048	2.093210e+03	1
<i>orsreg_1</i>	100%	41.2%	<b>100%</b>	No	14,133	2,204	6.745269e+03	1
<i>pde2961</i>	100%	50.1%	0%	No	14,585	2,961	6.424933e+02	1
<i>wang1</i>	100%	80.8%	0%	No	19,093	2,903	2.032301e+04	1

## 2 $S$ coverage, degree<sup>1</sup>

Matrix	jacobi	tridiag	maxLF	maxST	minST	Matrix	orig	jacobi	tridiag	maxLF	maxST	minST
<i>add20</i>	0.5686	0.5698	0.9496	0.9997	0.6480	<i>add20</i>	83	0	2	2	11	27
<i>c-20</i>	0.9994	0.9994	0.9996	0.9998	0.9996	<i>c-20</i>	157				148	40
<i>cryg2500</i>	0.5038	0.8796	0.9040	0.9064	0.5744	<i>cryg2500</i>	4				3	4
<i>dw2048</i>	0.5808	0.9140	0.9423	0.9437	0.6371	<i>dw2048</i>	7				5	4
<i>orsreg_1</i>	0.5001	0.5003	0.9949	0.9954	0.5017	<i>orsreg_1</i>	6				3	4
<i>pde2961</i>	0.5027	0.6310	0.8730	0.8742	0.6370	<i>pde2961</i>	4				3	3
<i>wang1</i>	0.5008	0.7422	0.8795	0.8905	0.5316	<i>wang1</i>	6				5	6

## 3 Results

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<sup>1</sup> $S$  degree :=  $\max_{i \in [n]} |\{j \mid A_{ij} \neq 0\}| - 1$













































