capabilities over finite fields. In this regard, generic software methodology is a powerful tool.

Partly modeled on the STL, LinBox uses the

Minimal polynomial and linear system solution over finite fields. For a matrix $\overline{A}$ $\mathbb{F}^{n \times n}$ over a field $\mathbb{F}$, Lanczo and Krylov u pace method e

hecking $\overline{\mathbf{A}}r = b$ make the y tem olution La Vega . The Lanczo approach allow one to compute r within the iteration for the minimal polynomial, thu the arithmetic and memory co t are only lightly greater than for ba ic Lanczo . The main drawback of the Wiedemann approach i that it need to either tore or recompute the equence $\{\overline{\mathbf{A}}^i b\}_{0 \le i \le d-1}$.

For both minimal polynomial and y tem ol tecahgfHHHcnhg5 $\mathbf{I}_r$ c hgHHcehg^{5}HHHcvlfhg^{5}HHHcihgEHHHcnel

efficient Monte arlo rank determination i ba ed on rank computation mod-
ulo random prime (ee

We have cho en not to focu on thi , and the

References

[1] Z. B i, J. Demmel, J. Dong rr , A. uhe, nd H. v n der Vorst, editors. *Templates for the solution of Algebraic Eigenvalues*