QuantitativeGovernance.pdf Rev.A, 2026.04.12 Free
Jeff Setterholm, Lakeville, Minnesota 55044, USA

Previous related posts:
https://ftp.setterholm.com/WorldPeace/Golden/_Golden-Readme.pdf
and the link to the baseline data sets:
https://ftp.setterholm.com/WorldPeace/Golden/Data
There will be a lot more substance in "/Golden" than just excellent data sets.

Systems and functions that endure and work well have a QUANTITATIVE basis proven by mathematical analysis. My intent is to aid the search for constructive, quantitative governance tools. I encourage other people to join the search.

Since November 3rd 2025, I've devoted my time to searching for ways to help realize Quantitative Governance. When the USA and Israel decided to risk WWIII by the sustained bombing of Iran & Lebanon, in March of 2026, I felt compelled to do something/anything that might help humanity counter the threat. My algorithms were not ready for posting, but my underlying data was ready… that's the /Golden/Data linked above, which /Golden/_Golden-Readme.pdf introduces.

Without any prejudice toward any other analytical tools that might realize "Constructive, Enduring, Quantitative Governance" for humanity, Complex Variables seem promising to me. They have the powerful, cyclic analysis features that aided Alternating Current power in eclipsing Thomas Edison's DC power in the 1800's. Defining complex multiplication, the foundation of the subject, resulted from about 200 years of very determined, diligent search by mathematicians; starting in Italy in the 1600's, and being realized in England in the 1830's.

My primary reference for this work has been the Schaum's Outline Series large paperback:

Complex Variables
with an introduction to conformal Mapping
and its applications
by Murray R Spiegel,
Professor of Mathematics
Rensselaer Polytechnic Institute
Schaum Publishing Company, New York 10010
July 1964
No listed ISBN number.

To my delight, I've found that inverting complex "less than full rank" matrices is only a minor variation on doing the same for real matrices – by substituting Fortran's "abs()" intrinsic function for real maximum values when pivoting. While

complex variables are vastly more powerful than Algebra, algebra changes very little when written using complex variables. So, High School algebra understandings carry over gracefully into learning about complex variables.

That leads me to suggest calling the overall subject "jAlgebra", rather than "complex variables". In my postings, if you see a "j" prefix on a name, expect to find yourself in complex-variables-land. Electrical Engineers use "j" to identify the complex component of a complex number, thus reserving "i" (the mathematician's notation) for "electrical current". When posted, my complex inversion algorithm will be in:
https://ftp.setterholm.com/WorldPeace/Golden/jInvert

I've also found that finding the complex roots of higher-order complex polynomials can be computed via an iterative algorithm which uses the complex matrix inversion algorithm above.

Claims of having found "root causes" and then claiming deep wisdom abound on the web. I will be posting an algorithm that delivers the roots of complex-variable polynomials, up to at least 12^{th} order (including roots that are not complex-conjugate-pairs). I'm extrapolating, as I haven't computed results beyond 6^{th} order yet ☺. In classical control theory, keeping poles out of the right half of the complex plane matters. ("poles" are complex roots (="zeros") in the denominators of transfer functions, not an ethnic reference.) Our current world problem is that some political leaders are drawn to behaving like transfer-function poles in the right half of the complex plane… the domain where "controlled" systems self-destruct. When posted, my complex polynomial roots finder will be in: https://ftp.setterholm.com/WorldPeace/Golden/jPolyRoots

One way or another, the goal is to acquire sufficient Wisdom to realize World Peace.

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https://www.setterholm.com/WisdomCAD
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