# WuRittSolva Tools

### Standard Application Package for Wu-Ritt Process

By
Huashan Liu,

Department of Mathematics, Tianjin Polytechnic University, P.R.C.

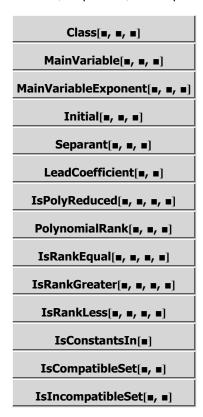
E - Mail: liukaitianpidi @sina.com
HomePage: http://magicm.51.net
Instructed by
Prof. Huang Dongwei

Department of Mathematics, Tianjin Polytechnic University, P.R.C.
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### Setion WRS\_I: Basic Tools for Polynomial Properties

#### Here the palettes.

{"MaxElementPos","MinElementPos","IsConstantsIn","PolyVariables","FixedClass","AutoClass","FixedMainVariable","AutoMainVariable","MainVariable","MainVariableExponent","Initial","IsPolyReduced","LeadCoefficient","PolynomialRank","IsRankEqual","IsRankLess","IsRankGreater","intTest","orderTransform","Separant","IsCompatibleSet","IsIncompatibleSet"}



### Setion WRS\_II: Tools for Arithmatic Computation Inter Polynomials

#### Here the palettes.

{"PolyPRemainder","PseudoRemainder","PseudoResolution","AuxPseudoRemainder","AuxPseudoResolution","PseudoRemainderSet","PseudoResolutionSet","IsAscendingSet","SplitPolySet","MiniAscSet","BasicSet","CharacteristicSet","CharacteristicForm","WuRittEqnsSolve","Padding","TracePrintOn","MaxSteps","ZerosDecomposition"}

PseudoRemainder[■, ■, ■, ■]
PseudoResolution[■, ■, ■, ■]
AuxPseudoRemainder[=, =, =, =]
AuxPseudoResolution[■, ■, ■, ■]
PseudoRemainderSet[■, ■, ■, ■]
PseudoResolutionSet[■, ■, ■, ■]
IsAscendingSet[■, ■, ■]
SplitPolySet[■, ■, ■]
BasicSet[■, ■, ■, ■]
MiniAscSet[■, ■, ■, ■]
CharacteristicSet[■, ■, ■, ■]
CharacteristicForm[■, ■, ■, ■]
WuRittEqnsSolve[■, ■, ■]
ZerosDecomposition[=, =, =, =]
TracePrintOn → False
MaxSteps → 50
Padding → ■

## Setion WRS\_III: Tools for Geo2AlgLib

#### Here the palettes.

 $\\ \{ "Two Lines Parallel", "Two Lines Perpend", "Triple Points Collinear", "Point On Line Equal", "Point On Line To Ratio", "Two Lines Equal", "$ Intersect", "Two Lines Equal Ratio", "Two Angles Equal", "Point In Angle", "Point On Circle", "Two Points On Circle", "Three Points On Circle", "Four Points On Circle", "Five Points On Circle", "Two Points On Circle", "TPointsOnCircle"}

TwoLinesParallel[{■, ■}, {■, ■}]
TwoLinesPerpend[{■, ■}, {■, ■}]
TwoLinesEqual[{■, ■}, {■, ■}]
TwoLinesToRatio[{■, ■}, {■, ■}, ■]
TwoLinesEqualRatio[{{=, =}, {=, =}}, {{=, =}}, {{=, =}}}]
TriplePointsCollinear[■, ■, ■]
TripleLinesIntersect[=, {{=, =}, {=, =}}]
PointOnLineEqual[■, {■, ■}]
PointOnLineToRatio[■, {■, ■}, ■]
TwoAnglesEqual[{=, =, =}, {=, =, =}]
PointInAngle[■, {■, ■, ■}]
PointOnCirlce[■, {■, ■}]
TwoPointsOnCircle[{■, ■}, {■, ■}]
ThreePointsOnCircle[{■, ■, ■}, {■, ■}]
FourPointsOnCircle[{ <b>a</b> , <b>a</b> , <b>a</b> , <b>a</b> }, { <b>a</b> , <b>a</b> }]
FivePointsOnCircle[{=, =, =, =, =}, {=, =}]

## Setion WRS\_IV: Tools for WuRittProver

#### Here the palettes.

{"IsNewComponent", "AuxProverRemainder", "WuRittProver", "WuRittSmartProver", "TraceCharacteristicSetOn", "TraceProverOn"}

IsNewComponent[■]
WuRittProver[■, ■, ■, ■]
WuRittSmartProver[■, {■, ■}, ■, ■, ■]
TraceCharacteristicSetOn → True
TraceProverOn → True

### Relevent Resources

Some resources are available for developing the WuRittSolva Tools, and these coresponding notebooks are listed below:

- [1]. Demonstration of WuRittSolva.nb
- [2]. WuRittSolva User Guide.nb
- [3]. Demonstration of WuRittSolva in Elementary Geometry.nb
- [4]. A Collection of Testing Problems.nb
- [5]. WuRittSolva for Concrete Geometric Configurations in Elementary Geometry.nb
- [6]. WuRittSolva User Manual.nb