

# Architecture synthesis for linear time-invariant filters

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# Table of Contents

- 1 Introduction
- 2 Signal processing and filters
  - Architecture generation

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- 2 Signal processing and filters
  - Architecture generation

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2 Signal processing and filters

- Architecture generation

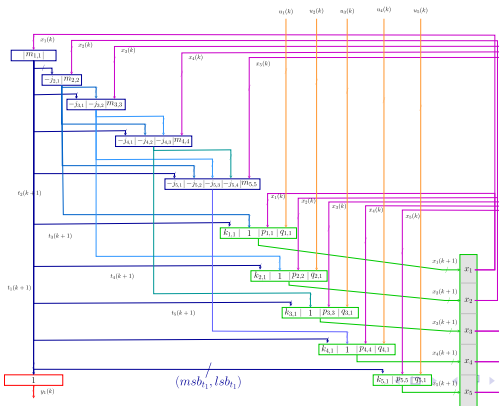
# Architecture generation

toto is happier.

## Example

$$Z =$$

1	0	0	0	0	$m_{1,1}$	0	0	0	0	0
$p_{2,1}$	1	0	0	0	0	$m_{2,2}$	0	0	0	0
$p_{3,1}$	$p_{3,2}$	1	0	0	0	0	$m_{3,3}$	0	0	0
$p_{4,1}$	$p_{4,2}$	$p_{4,3}$	1	0	0	0	0	$m_{4,4}$	0	0
$p_{5,1}$	$p_{5,2}$	$p_{5,3}$	$p_{5,4}$	1	0	0	0	0	$m_{5,5}$	0
$k_{1,1}$	1	0	0	0	$p_{1,1}$	0	0	0	0	$q_{1,1}$
$k_{2,1}$	0	1	0	0	0	$p_{2,2}$	0	0	0	$q_{2,1}$
$k_{3,1}$	0	0	1	0	0	0	$p_{3,3}$	0	0	$q_{3,1}$
$k_{4,1}$	0	0	0	1	0	0	0	$p_{4,4}$	0	$q_{4,1}$
$k_{5,1}$	0	0	0	0	0	0	0	0	$p_{5,5}$	$q_{5,1}$
1	0	0	0	0	0	0	0	0	0	0



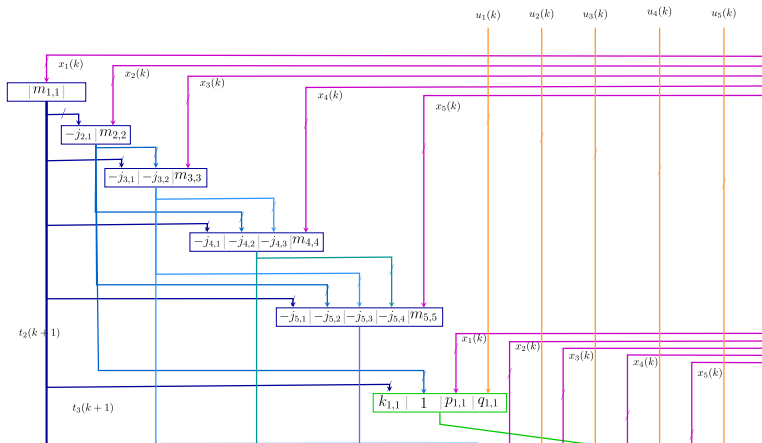
# Example

 $Z =$ 

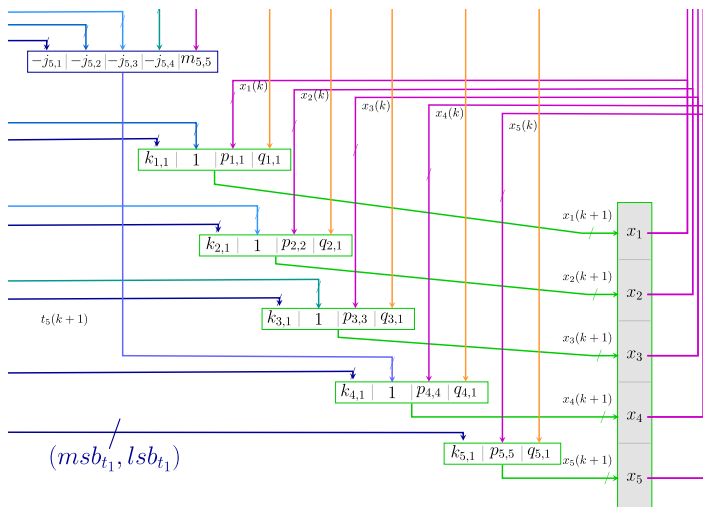
1	0	0	0	0	$m_{1,1}$	0	0	0	0	0
$j_{2,1}$	1	0	0	0	0	$m_{2,2}$	0	0	0	0
$j_{3,1}$	$j_{3,2}$	1	0	0	0	0	$m_{3,3}$	0	0	0
$j_{4,1}$	$j_{4,2}$	$j_{4,3}$	1	0	0	0	0	$m_{4,4}$	0	0
$j_{5,1}$	$j_{5,2}$	$j_{5,3}$	$j_{5,4}$	1	0	0	0	0	$m_{5,5}$	0
$k_{1,1}$	1	0	0	0	$p_{1,1}$	0	0	0	0	$q_{1,1}$
$k_{2,1}$	0	1	0	0	0	$p_{2,2}$	0	0	0	$q_{2,1}$
$k_{3,1}$	0	0	1	0	0	0	$p_{3,3}$	0	0	$q_{3,1}$
$k_{4,1}$	0	0	0	1	0	0	0	$p_{4,4}$	0	$q_{4,1}$
$k_{5,1}$	0	0	0	0	0	0	0	0	$p_{5,5}$	$q_{5,1}$
1	0	0	0	0	0	0	0	0	0	0



# Example



## Example



# Conclusion

## To conclude

- Two algorithms derived from the state of the art
- Improvement using the dual-constrained approach
- Better results for the PPXA than other methods
- Further work to do considering the choice of convex sets according to the type of data

# References

## Small bibliography



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**Any question?**