SUPPLEMENTAL MATERIAL:
Results

This supplemental material gives results about three complementary criteria : Overall Accuracy, Average Accuracy and Average Reliability ; only the Cohen's Kappa criterium is provided in the main article.

Table 1. Overall Accuracy (in %).

Data set	n_l	Proportion	Noise	RGMM	HDDA	SVM	RF	FMLM	NPFD	FSVM	FRF
Pavia	30	Balanced	Noiseless	**82.8 (2.2)**	80.3 (3.1)	81.1 (2.2)	69.2 (2.8)	72.5 (2.7)	78.0 (3.4)	77.3 (2.1)	68.9 (2.5)
	120	Balanced	Noiseless	**89.0 (1.3)**	82.2 (1.8)	**89.0 (1.0)**	78.3 (1.3)	79.8 (1.2)	86.9 (1.1)	84.9 (1.0)	77.1 (1.3)
	480	Balanced	Noiseless	91.8 (0.4)	83.4 (1.3)	**92.7 (0.4)**	85.1 (0.9)	84.6 (0.6)	90.6 (0.4)	89.3 (0.5)	82.9 (0.7)
AISA	30	Balanced	Noiseless	64.7 (1.4)	63.8 (2.3)	62.8 (1.3)	60.0 (1.2)	61.4 (1.6)	**68.9 (1.1)**	63.9 (1.7)	60.2 (1.3)
	120	Balanced	Noiseless	66.9 (0.8)	65.4 (1.4)	71.1 (0.6)	67.0 (0.5)	68.6 (1.0)	**76.2 (0.7)**	75.1 (0.8)	67.9 (0.5)
	480	Balanced	Noiseless	66.9 (0.8)	64.6 (2.2)	79.2 (0.4)	72.4 (0.4)	72.6 (0.3)	**81.2 (0.3)**	**81.3 (0.3)**	73.5 (0.3)
AVIRIS	30	Balanced	Noiseless	74.6 (2.2)	73.0 (2.6)	63.1 (1.8)	66.8 (1.4)	68.6 (2.5)	**76.3 (2.2)**	71.1 (2.0)	67.0 (1.5)
	120	Balanced	Noiseless	82.5 (0.8)	78.3 (1.7)	77.4 (1.0)	76.7 (1.1)	78.1 (1.0)	**84.2 (0.8)**	82.8 (1.0)	77.0 (1.0)
	480	Balanced	Noiseless	85.1 (0.7)	79.5 (0.6)	84.4 (0.6)	82.5 (0.8)	79.3 (0.8)	86.3 (0.6)	**87.6 (0.5)**	82.7 (0.8)
Pavia	30	S-prop.	Noiseless	85.6 (2.7)	76.9 (2.3)	**86.5 (1.3)**	79.5 (0.8)	78.6 (1.7)	83.4 (1.4)	83.2 (1.4)	79.1 (0.8)
	480	S-prop.	Noiseless	93.1 (0.2)	85.8 (1.0)	**94.4 (0.2)**	90.1 (0.3)	88.8 (0.3)	91.2 (0.3)	89.3 (0.5)	83.0 (0.6)
	30	D-prop.	Noiseless	**81.2 (3.2)**	61.0 (4.8)	**81.1 (2.3)**	66.9 (2.1)	71.1 (2.1)	77.0 (3.2)	76.0 (2.6)	66.3 (2.0)
	480	D-prop.	Noiseless	91.8 (0.4)	83.1 (1.1)	**92.5 (0.4)**	83.6 (0.8)	83.5 (0.9)	89.1 (0.6)	92.2 (0.2)	88.3 (0.2)
AISA	30	S-prop.	Noiseless	65.7 (1.0)	61.1 (5.9)	64.6 (0.9)	61.1 (0.9)	64.4 (1.5)	**71.2 (1.0)**	66.6 (1.2)	61.7 (0.8)
	480	S-prop.	Noiseless	70.2 (0.5)	67.5 (1.3)	81.0 (0.3)	75.3 (0.3)	75.0 (0.2)	**83.4 (0.2)**	81.3 (0.3)	73.5 (0.3)
	30	D-prop.	Noiseless	64.8 (0.9)	60.4 (4.9)	63.2 (1.2)	59.9 (1.1)	62.3 (1.5)	**70.0 (1.2)**	65.0 (1.5)	60.2 (1.4)
	480	D-prop.	Noiseless	69.6 (0.9)	66.4 (1.3)	80.2 (0.3)	74.0 (0.3)	73.7 (0.3)	82.2 (0.2)	**82.6 (0.2)**	76.5 (0.3)
AVIRIS	30	S-prop.	Noiseless	**76.9 (1.6)**	71.0 (1.3)	66.5 (1.2)	68.4 (1.5)	71.0 (2.1)	**76.3 (2.4)**	73.9 (1.7)	68.3 (1.8)
	480	S-prop.	Noiseless	89.7 (0.4)	84.3 (0.6)	89.3 (0.5)	86.8 (0.4)	84.9 (0.4)	90.4 (0.4)	**91.7 (0.4)**	87.1 (0.4)
	30	D-prop.	Noiseless	**74.8 (1.9)**	70.6 (1.6)	62.0 (1.6)	65.7 (1.8)	68.5 (2.5)	**74.7 (2.3)**	70.9 (1.7)	65.9 (1.7)
	480	D-prop.	Noiseless	85.8 (0.6)	80.7 (0.5)	85.3 (0.5)	83.5 (0.6)	80.1 (0.7)	86.6 (0.5)	**88.3 (0.5)**	83.7 (0.5)
Pavia	30	Balanced	Weak Noise	67.6 (6.1)	62.1 (6.3)	74.5 (4.7)	67.3 (3.3)	65.3 (3.6)	**77.0 (3.8)**	71.5 (3.3)	67.0 (3.0)
	480	Balanced	Weak Noise	79.7 (1.9)	62.4 (4.4)	**91.6 (0.4)**	84.7 (1.0)	77.3 (0.7)	89.3 (0.5)	87.6 (0.6)	82.6 (0.8)
	30	Balanced	Strong Noise	59.0 (7.3)	51.3 (6.4)	68.8 (6.1)	63.1 (3.5)	59.3 (5.8)	**72.0 (6.5)**	65.9 (6.3)	63.5 (3.4)
	480	Balanced	Strong Noise	74.6 (2.6)	53.2 (4.2)	**90.3 (0.7)**	83.6 (1.1)	74.3 (0.9)	88.6 (0.7)	85.6 (0.8)	81.4 (1.1)
AISA	30	Balanced	Weak Noise	60.6 (2.4)	60.6 (2.0)	60.2 (1.4)	58.6 (1.4)	58.1 (1.8)	**68.8 (1.1)**	60.4 (1.5)	58.4 (1.1)
	480	Balanced	Weak Noise	64.1 (0.9)	58.1 (2.6)	76.8 (0.4)	72.1 (0.3)	69.2 (0.6)	**80.8 (0.8)**	79.2 (0.3)	73.1 (0.3)
	30	Balanced	Strong Noise	56.2 (1.7)	56.0 (2.3)	56.6 (1.9)	55.5 (1.8)	54.0 (2.0)	**68.5 (1.1)**	56.3 (2.0)	54.4 (2.0)
	480	Balanced	Strong Noise	62.8 (1.3)	55.6 (2.2)	73.6 (0.5)	71.4 (0.4)	66.4 (0.8)	**79.7 (0.3)**	77.2 (0.4)	72.0 (0.4)
AVIRIS	30	Balanced	Weak Noise	66.3 (2.9)	63.6 (3.2)	58.4 (2.5)	64.2 (2.1)	63.4 (2.6)	**75.4 (2.4)**	64.4 (2.9)	64.4 (2.4)
	480	Balanced	Weak Noise	79.4 (1.4)	65.2 (1.3)	80.6 (1.0)	81.9 (1.0)	76.3 (0.7)	**85.7 (0.9)**	84.9 (0.7)	81.9 (1.0)
	30	Balanced	Strong Noise	59.8 (4.3)	56.9 (3.5)	53.5 (3.5)	60.6 (3.2)	58.8 (2.8)	**74.1 (3.3)**	59.1 (4.0)	60.5 (2.9)
	480	Balanced	Strong Noise	75.4 (1.7)	57.3 (3.4)	77.1 (1.0)	80.8 (1.0)	74.2 (0.9)	**85.3 (0.6)**	82.8 (1.0)	80.5 (1.0)

Table 2. Average Accuracy (in %).

Data set	n_l	Proportion	Noise	RGMM	HDDA	SVM	RF	FMLM	NPFD	FSVM	FRF
Pavia	30	Balanced	Noiseless	**86.6 (1.2)**	84.2 (1.3)	85.7 (0.9)	79.0 (1.2)	78.6 (1.5)	84.0 (1.9)	83.0 (1.2)	78.5 (1.2)
	120	Balanced	Noiseless	90.4 (0.5)	85.7 (1.0)	**91.1 (0.6)**	85.5 (0.5)	85.0 (0.6)	89.6 (0.6)	88.9 (0.5)	84.6 (0.6)
	480	Balanced	Noiseless	92.7 (0.2)	87.4 (0.6)	**93.7 (0.3)**	89.7 (0.4)	88.5 (0.3)	92.1 (0.3)	91.9 (0.3)	88.5 (0.3)
AISA	30	Balanced	Noiseless	67.0 (1.7)	66.2 (2.1)	65.4 (1.2)	61.7 (1.0)	64.0 (1.3)	**72.4 (1.1)**	66.3 (1.2)	62.1 (1.0)
	120	Balanced	Noiseless	70.8 (0.6)	68.3 (1.1)	73.8 (0.6)	69.7 (0.4)	70.9 (0.7)	**79.6 (0.5)**	77.0 (0.7)	70.6 (0.4)
	480	Balanced	Noiseless	71.6 (0.4)	67.7 (1.7)	81.2 (0.3)	75.6 (0.3)	74.9 (0.3)	**84.1 (0.2)**	83.0 (0.2)	76.5 (0.2)
AVIRIS	30	Balanced	Noiseless	80.5 (1.8)	78.9 (2.3)	69.3 (1.4)	71.8 (1.4)	74.3 (2.3)	**81.7 (1.8)**	77.0 (1.7)	72.2 (1.2)
	120	Balanced	Noiseless	87.6 (0.5)	83.8 (1.2)	83.4 (0.7)	81.8 (0.8)	84.1 (0.7)	**88.9 (0.6)**	87.8 (0.7)	82.4 (0.7)
	480	Balanced	Noiseless	92.0 (0.7)	87.1 (0.9)	91.3 (0.6)	88.8 (0.8)	87.8 (0.7)	92.5 (0.6)	**93.2 (0.7)**	89.3 (0.9)
Pavia	30	S-prop.	Noiseless	79.7 (2.7)	71.1 (4.2)	**82.3 (2.0)**	72.7 (1.9)	72.5 (3.2)	76.0 (2.7)	78.6 (2.6)	71.5 (2.0)
	480	S-prop.	Noiseless	91.4 (0.2)	86.9 (0.9)	**92.5 (0.3)**	86.6 (0.5)	85.2 (0.6)	88.3 (0.5)	91.9 (0.2)	88.5 (0.3)
	30	D-prop.	Noiseless	83.4 (1.7)	72.2 (2.6)	**84.3 (1.6)**	77.3 (1.3)	75.9 (2.0)	81.2 (2.0)	80.2 (2.0)	76.7 (1.5)
	480	D-prop.	Noiseless	92.3 (0.2)	86.1 (0.5)	**93.4 (0.2)**	88.8 (0.4)	86.9 (0.5)	90.9 (0.4)	90.5 (0.3)	84.5 (0.5)
AISA	30	S-prop.	Noiseless	64.8 (0.9)	57.3 (4.2)	60.2 (1.2)	55.7 (1.2)	59.8 (1.9)	**67.3 (1.4)**	62.1 (1.3)	56.3 (1.1)
	480	S-prop.	Noiseless	68.2 (1.7)	67.7 (0.9)	78.0 (0.3)	72.0 (0.4)	70.6 (0.3)	81.5 (0.3)	**83.0 (0.2)**	76.5 (0.2)
	30	D-prop.	Noiseless	66.6 (0.8)	60.5 (5.0)	64.5 (1.3)	60.7 (1.0)	63.3 (1.5)	**79.1 (1.0)**	65.7 (1.3)	61.0 (1.1)
	480	D-prop.	Noiseless	71.8 (0.9)	68.5 (1.0)	81.2 (0.4)	75.8 (0.3)	74.4 (0.2)	**83.9 (0.3)**	79.8 (0.3)	73.2 (0.3)
AVIRIS	30	S-prop.	Noiseless	**77.9 (2.5)**	73.3 (1.6)	66.0 (1.3)	66.1 (1.8)	71.9 (2.8)	75.8 (2.7)	74.8 (1.7)	66.0 (2.2)
	480	S-prop.	Noiseless	91.3 (0.4)	86.6 (0.6)	90.5 (0.5)	86.2 (0.6)	85.9 (0.5)	91.2 (0.4)	**92.7 (0.4)**	86.7 (0.5)
	30	D-prop.	Noiseless	**81.0 (1.2)**	74.6 (1.5)	69.2 (1.3)	71.7 (1.5)	75.0 (2.6)	**80.6 (1.7)**	77.5 (1.6)	72.1 (1.4)
	480	D-prop.	Noiseless	92.1 (0.8)	87.2 (1.2)	91.6 (0.9)	89.1 (1.2)	87.8 (1.1)	92.2 (1.0)	**93.4 (0.8)**	89.7 (1.0)
Pavia	30	Balanced	Weak Noise	73.8 (3.5)	69.4 (3.2)	81.1 (2.5)	76.8 (1.3)	72.0 (2.4)	**83.6 (2.0)**	78.6 (1.8)	77.0 (1.3)
	480	Balanced	Weak Noise	83.8 (1.2)	70.9 (1.3)	**92.9 (0.2)**	89.3 (0.4)	82.0 (0.4)	91.4 (0.4)	91.0 (0.2)	88.1 (0.3)
	30	Balanced	Strong Noise	64.3 (5.0)	60.6 (3.5)	76.5 (3.0)	72.4 (2.2)	66.2 (2.7)	**80.9 (3.6)**	74.2 (2.4)	73.2 (2.5)
	480	Balanced	Strong Noise	80.3 (1.5)	67.7 (1.5)	**92.1 (0.3)**	88.4 (0.4)	79.6 (0.6)	90.9 (0.4)	90.2 (0.3)	87.3 (0.4)
AISA	30	Balanced	Weak Noise	62.1 (2.5)	62.2 (2.3)	63.0 (1.3)	60.3 (1.2)	60.8 (1.5)	**72.4 (1.1)**	63.2 (1.3)	60.0 (1.0)
	480	Balanced	Weak Noise	68.5 (0.5)	62.3 (2.2)	79.5 (0.3)	75.3 (0.3)	72.0 (0.4)	**83.9 (0.5)**	81.6 (0.3)	76.0 (0.3)
	30	Balanced	Strong Noise	57.3 (1.7)	57.1 (2.6)	59.3 (1.7)	57.3 (1.7)	56.4 (2.0)	**72.1 (1.0)**	58.8 (1.9)	56.0 (1.6)
	480	Balanced	Strong Noise	66.6 (0.7)	60.9 (2.1)	77.0 (0.4)	74.7 (0.3)	69.5 (0.7)	**83.1 (0.2)**	79.1 (0.4)	74.9 (0.2)
AVIRIS	30	Balanced	Weak Noise	71.7 (2.4)	69.0 (2.6)	64.2 (1.9)	69.4 (1.5)	69.0 (1.9)	**80.6 (2.1)**	69.8 (2.2)	69.8 (1.8)
	480	Balanced	Weak Noise	87.5 (0.8)	75.3 (1.5)	88.8 (0.8)	88.3 (1.1)	85.9 (0.9)	**92.1 (0.8)**	**91.9 (0.7)**	88.7 (1.0)
	30	Balanced	Strong Noise	65.7 (3.7)	62.1 (2.2)	58.7 (3.0)	65.6 (2.6)	63.9 (2.6)	**79.2 (3.2)**	64.3 (3.5)	65.7 (2.2)
	480	Balanced	Strong Noise	84.4 (1.1)	67.4 (1.7)	86.3 (1.1)	87.4 (1.0)	84.3 (0.8)	**91.8 (0.6)**	90.4 (0.9)	87.5 (1.0)

Table 3. Average Reliability (in %).

Data set	n_l	Proportion	Noise	RGMM	HDDA	SVM	RF	FMLM	NPFD	FSVM	FRF
Pavia	30	Balanced	Noiseless	**81.1 (1.6)**	79.6 (2.4)	79.6 (1.7)	71.1 (1.7)	70.1 (2.5)	76.9 (2.3)	76.6 (1.5)	70.7 (1.6)
	120	Balanced	Noiseless	**85.7 (1.4)**	79.6 (1.5)	**85.9 (1.0)**	77.7 (0.8)	76.6 (1.4)	83.3 (0.9)	83.1 (0.9)	76.6 (0.8)
	480	Balanced	Noiseless	87.3 (0.6)	79.4 (1.1)	**88.9 (0.5)**	81.8 (0.5)	79.8 (1.3)	86.1 (0.5)	86.2 (0.5)	80.1 (0.4)
AISA	30	Balanced	Noiseless	63.5 (1.2)	62.5 (2.0)	60.7 (1.2)	57.4 (1.1)	58.4 (1.6)	**67.3 (1.2)**	61.6 (1.4)	57.5 (1.1)
	120	Balanced	Noiseless	67.5 (0.6)	64.5 (1.3)	68.7 (0.5)	64.6 (0.6)	65.8 (0.8)	**74.0 (0.5)**	72.2 (0.8)	65.4 (0.5)
	480	Balanced	Noiseless	68.8 (0.4)	63.4 (1.8)	75.9 (0.4)	69.5 (0.4)	69.5 (0.3)	**78.2 (0.3)**	77.9 (0.3)	70.5 (0.3)
AVIRIS	30	Balanced	Noiseless	77.3 (1.7)	76.1 (2.0)	66.2 (1.4)	68.7 (1.2)	69.8 (2.3)	**78.5 (1.8)**	73.4 (1.6)	69.1 (1.3)
	120	Balanced	Noiseless	83.4 (0.7)	80.0 (1.3)	79.0 (0.8)	77.4 (0.9)	78.9 (1.0)	**84.8 (0.7)**	83.7 (0.9)	78.0 (0.7)
	480	Balanced	Noiseless	77.6 (0.6)	73.3 (0.6)	77.0 (1.1)	71.7 (1.4)	70.5 (1.9)	80.1 (1.2)	**81.2 (1.1)**	72.1 (1.3)
Pavia	30	S-prop.	Noiseless	**85.3 (2.6)**	76.8 (3.5)	**85.0 (1.7)**	78.2 (1.7)	73.2 (3.3)	82.0 (1.9)	81.6 (1.7)	77.7 (1.7)
	480	S-prop.	Noiseless	92.2 (0.3)	83.2 (0.9)	**93.6 (0.3)**	90.2 (0.3)	87.4 (0.5)	90.8 (0.4)	86.2 (0.4)	80.1 (0.3)
	30	D-prop.	Noiseless	**80.5 (2.5)**	68.2 (3.5)	79.4 (2.0)	70.8 (1.5)	69.0 (2.5)	75.5 (2.2)	75.5 (1.8)	70.3 (1.5)
	480	D-prop.	Noiseless	88.4 (0.5)	79.1 (1.1)	89.5 (0.5)	80.7 (0.7)	78.7 (2.2)	85.8 (0.7)	**91.8 (0.4)**	88.5 (0.4)
AISA	30	S-prop.	Noiseless	64.6 (1.1)	59.3 (7.3)	62.3 (1.3)	58.5 (1.2)	60.7 (1.8)	**69.5 (1.3)**	63.1 (1.4)	59.0 (1.0)
	480	S-prop.	Noiseless	71.7 (0.5)	66.1 (1.1)	79.4 (0.4)	73.5 (0.4)	73.4 (0.3)	**82.0 (0.3)**	77.9 (0.3)	70.5 (0.3)
	30	D-prop.	Noiseless	63.9 (0.7)	59.4 (6.1)	61.2 (1.2)	57.5 (0.9)	59.5 (1.7)	**67.9 (1.1)**	62.5 (1.4)	57.9 (1.2)
	480	D-prop.	Noiseless	70.0 (0.4)	64.7 (1.2)	77.0 (0.3)	70.8 (0.3)	70.5 (0.2)	79.1 (0.3)	**81.5 (0.2)**	74.7 (0.3)
AVIRIS	30	S-prop.	Noiseless	**81.1 (1.3)**	73.7 (1.2)	68.4 (1.6)	71.8 (2.0)	72.0 (2.5)	79.7 (2.8)	75.6 (1.7)	71.9 (2.3)
	480	S-prop.	Noiseless	90.8 (0.4)	85.9 (0.5)	90.8 (0.5)	88.6 (0.5)	86.9 (0.5)	91.8 (0.4)	**92.8 (0.4)**	89.1 (0.5)
	30	D-prop.	Noiseless	**77.4 (1.3)**	73.0 (1.5)	65.7 (1.2)	68.5 (1.6)	70.0 (2.4)	**76.8 (1.9)**	73.4 (1.5)	68.7 (1.6)
	480	D-prop.	Noiseless	71.9 (0.5)	67.1 (0.5)	70.9 (0.6)	69.6 (0.6)	66.8 (0.5)	72.7 (0.5)	**74.0 (0.6)**	69.4 (0.5)
Pavia	30	Balanced	Weak Noise	66.3 (4.9)	59.8 (4.3)	73.2 (3.3)	68.4 (2.6)	62.9 (2.8)	**76.3 (2.4)**	70.7 (2.4)	68.6 (2.2)
	480	Balanced	Weak Noise	71.0 (1.8)	55.3 (4.0)	**86.9 (0.8)**	81.5 (0.7)	72.1 (0.8)	84.4 (0.7)	84.0 (0.7)	79.7 (0.5)
	30	Balanced	Strong Noise	55.2 (7.1)	51.1 (4.6)	68.3 (4.6)	62.4 (3.2)	56.8 (3.6)	**73.2 (4.1)**	66.7 (3.6)	63.4 (3.6)
	480	Balanced	Strong Noise	68.3 (2.3)	51.9 (3.6)	**85.1 (0.9)**	79.7 (1.1)	68.2 (1.0)	83.7 (0.7)	82.2 (0.8)	78.2 (0.9)
AISA	30	Balanced	Weak Noise	59.2 (1.9)	58.8 (2.1)	58.8 (1.3)	56.2 (1.4)	55.7 (1.9)	**67.3 (1.1)**	59.1 (1.4)	55.8 (1.2)
	480	Balanced	Weak Noise	67.0 (0.6)	57.9 (2.4)	73.9 (0.3)	69.3 (0.3)	67.0 (0.6)	**77.9 (0.6)**	76.3 (0.4)	70.1 (0.3)
	30	Balanced	Strong Noise	54.1 (1.8)	53.9 (2.7)	55.6 (2.2)	53.6 (1.9)	51.5 (2.2)	**66.9 (1.1)**	55.1 (1.9)	52.1 (1.8)
	480	Balanced	Strong Noise	65.4 (0.7)	56.0 (1.6)	71.2 (0.5)	68.7 (0.4)	64.6 (0.8)	**77.0 (0.3)**	73.6 (0.6)	69.0 (0.3)
AVIRIS	30	Balanced	Weak Noise	71.0 (2.7)	67.2 (3.4)	61.4 (2.4)	66.8 (1.7)	64.6 (2.3)	**77.7 (1.9)**	67.0 (2.6)	67.1 (2.0)
	480	Balanced	Weak Noise	72.1 (1.7)	50.9 (1.3)	72.3 (2.1)	71.7 (1.4)	69.4 (1.0)	**79.0 (1.5)**	77.1 (1.8)	71.8 (1.6)
	30	Balanced	Strong Noise	64.4 (4.5)	59.4 (3.1)	56.6 (3.7)	63.1 (3.3)	59.9 (2.6)	**76.5 (3.1)**	62.7 (3.7)	63.1 (3.0)
	480	Balanced	Strong Noise	65.8 (2.1)	46.3 (1.4)	69.2 (1.7)	70.1 (1.8)	67.3 (1.0)	**78.3 (1.0)**	74.2 (2.3)	69.9 (1.4)