

This folder contains noise-estimation algorithms (Chapter 9)

specsub_ns.m	Basic spectral subtraction algorithm implemented with different noise estimation algorithms:	
martin_estimation.m	Martin's minimum tracking	[7]
mcra_estimation.m	MCRA algorithm	[22]
mcra2_estimation.m	MCRA-2 algorithm	[8]
imcra_estimation.m	IMCRA algorithm	[23]
doblinger_estimation.m	Continuous minimal tracking	[24]
hirsch_estimation.m	Weighted spectral average	[25]
connfreq_estimation.m	Connected time-frequency regions	[26]

USAGE

```
>> specsub_ns(infile.wav, method, outfile.wav)
where 'method' is:
```

```
'martin'    = Martin's minimum tracking algorithm
'mcra'      = Minimum controlled recursive average algorithm (Cohen)
'mcra2'     = variant of Minimum controlled recursive average algorithm
'imcra'     = improved Minimum controlled recursive average algorithm (Cohen)
'doblinger' = continuous spectral minimum tracking (Doblinger)
'hirsch'    = weighted spectral average (Hirsch & Ehrlicher)
'conn_freq' = connected frequency regions (Sorensen & Andersen)
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REFERENCES:

- [7] Martin, R. (2001). Noise power spectral density estimation based on optimal smoothing and minimum statistics. *IEEE Transactions on Speech and Audio Processing*, 9(5), 504-512.
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- [26] Sorensen, K. and Andersen, S. (2005). Speech enhancement with natural sounding residual noise based on connected time-frequency speech presence regions. *EURASIP J. Appl. Signal Process.*, 18, 2954-2964.

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