

Vendor-specific Homogeneity Testing Introduction

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Disclaimer

Nothing to disclose



Objectives

Introduction to the session



Annual homogeneity testing is a requirement of the ACR accreditation annual system performance evaluation.



HOMOGENEITY TESTING



Uncertainty

Lack of Training

Sophistication



How do I test it?



ACR Manual

Spectral Peak

Bandwidth-Difference

Phase Map

Phase-Difference Map



Vendor Methodology?

The ACR does not require a physicist to use the vendor's procedure.

Advantage:

Agreement with the site engineer.

Disadvantage:

May require software or equipment which is not easily accessible to the physicist.



**I tested it.
I got a number.
What does it mean?**



ACR Manual

The ACR manual does not have firm acceptable values.

They do state:

“The homogeneity is specified by the MRI system manufacturer. The values obtained should be compared to those specified for the DSV equal to the phantom diameter.”

Obviously, this is only useful if the vendor's procedure is used.



Comparison Difficulties

Precision

Ptp vs rms

dsv

Performance differences between models and manufacturers



Temporal Consistency

If the testing is performed consistently, it is expected that consistent results will be obtained.



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