

Short title

Ivan Toftul

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# Long title

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EVENT @ PLACE

# Introduction

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












































## References

## Extra slides

► One

► Two

Spherical multipoles

$\psi_{em1}$								$\psi_{om1}$
$M_{em1}$								$M_{om1}$
$N_{em1}$								$N_{om1}$
								
$\psi_{em2}$							$\psi_{om2}$	
$M_{em2}$							$M_{om2}$	
$N_{em2}$							$N_{om2}$	
$\psi_{em3}$							$\psi_{om3}$	
$M_{em3}$							$M_{om3}$	
$N_{em3}$							$N_{om3}$	
$m$	3	2	1	0	1	2	3	

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$$\int dx f(x)$$

# First slide with results

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From<sup>1</sup> we have

$$\sin(x) \approx x$$

## Example

For  $x = 0.1$  we have

$$\sin(0.1) = 0.09983341664682815$$

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<sup>1</sup>M. E. Muldoon, A. A. Ungar, *Math. Mag.* **69**, 3–14, ISSN: 0025-570X (Feb. 1996).

# Second slide with results

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$$\sin(x) \approx x + \frac{x^3}{3!}$$

# Conclusions



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1. One
2. Two

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1. M. E. Muldoon, A. A. Ungar, *Math. Mag.* **69**, 3–14, ISSN: 0025-570X (Feb. 1996).

# $\hat{\chi}_{2D}^{(2)}$ TMDC tensor in cylindrical coordinates

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$$\chi_{\{lm\}}^{(2)} = R_{li}^{-1} R_{nj}^{-1} R_{mk}^{-1} \chi_{\{ijk\}}^{(2)}, \quad R^{-1}(\varphi) = \begin{pmatrix} \cos(\varphi) & \sin(\varphi) & 0 \\ -\sin(\varphi) & \cos(\varphi) & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$\begin{aligned} \chi_{2D}^{(2)} \text{ TMDC} &= \tilde{\chi}_{2D}^{\text{TMDC}} \left[ \begin{bmatrix} 0 & -1 & 0 \\ -1 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \right]_{(\hat{x}\hat{y}\hat{z})} \\ &= \tilde{\chi}_{2D}^{\text{TMDC}} \left[ \begin{bmatrix} -\sin(3\varphi) & -\cos(3\varphi) & 0 \\ -\cos(3\varphi) & \sin(3\varphi) & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} -\cos(3\varphi) & \sin(3\varphi) & 0 \\ \sin(3\varphi) & \cos(3\varphi) & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \right]_{(\hat{r}, \hat{\varphi}, \hat{z})} \\ &= \tilde{\chi}_{2D}^{\text{TMDC}} \left[ \frac{1}{2} e^{-3i\varphi} (\hat{\varphi}\hat{\varphi}\hat{\varphi} + i\hat{\varphi}\hat{\varphi}\hat{r} + i\hat{\varphi}\hat{r}\hat{\varphi} - \hat{\varphi}\hat{r}\hat{r} + i\hat{r}\hat{\varphi}\hat{\varphi} - \hat{r}\hat{\varphi}\hat{r} - \hat{r}\hat{r}\hat{\varphi} - i\hat{r}\hat{r}\hat{r}) \right. \\ &\quad \left. + \frac{1}{2} e^{+3i\varphi} (\hat{\varphi}\hat{\varphi}\hat{\varphi} - i\hat{\varphi}\hat{\varphi}\hat{r} - i\hat{\varphi}\hat{r}\hat{\varphi} - \hat{\varphi}\hat{r}\hat{r} - i\hat{r}\hat{\varphi}\hat{\varphi} - \hat{r}\hat{\varphi}\hat{r} - \hat{r}\hat{r}\hat{\varphi} + i\hat{r}\hat{r}\hat{r}) \right] \end{aligned}$$