

---

# Contents

<b>1</b>	<b>Introduction</b> .....	1
<b>2</b>	<b>Double integral transformations</b> .....	7
2.1	Schur multipliers and Peller's theorem .....	8
2.2	Extension to $B(\mathcal{H})$ .....	18
2.3	Norm estimates .....	21
2.4	Technical results .....	24
2.5	Notes and references .....	31
<b>3</b>	<b>Means of operators and their comparison</b> .....	33
3.1	Symmetric homogeneous means .....	33
3.2	Integral expression and comparison of norms .....	37
3.3	Schur multipliers for matrices .....	40
3.4	Positive definite kernels .....	45
3.5	Norm estimates for means .....	46
3.6	Kernel and range of $M(H, K)$ .....	49
3.7	Notes and references .....	53
<b>4</b>	<b>Convergence of means</b> .....	57
4.1	Main convergence result .....	57
4.2	Related convergence results .....	61
<b>5</b>	<b><math>A</math>-<math>L</math>-<math>G</math> interpolation means <math>M_\alpha</math></b> .....	65
5.1	Monotonicity and related results .....	65
5.2	Characterization of $   M_\infty(H, K)X    < \infty$ .....	69
5.3	Norm continuity in parameter .....	70
5.4	Notes and references .....	78
<b>6</b>	<b>Heinz-type means <math>A_\alpha</math></b> .....	79
6.1	Norm continuity in parameter .....	79
6.2	Convergence of operator Riemann sums .....	81

6.3	Notes and references .....	85
<b>7</b>	<b>Binomial means <math>B_\alpha</math></b> .....	89
7.1	Majorization $B_\alpha \preceq M_\infty$ .....	89
7.2	Equivalence of $\ B_\alpha(H, K)X\ $ for $\alpha > 0$ .....	93
7.3	Norm continuity in parameter .....	96
7.4	Notes and references .....	103
<b>8</b>	<b>Certain alternating sums of operators</b> .....	105
8.1	Preliminaries .....	106
8.2	Uniform bounds for norms .....	110
8.3	Monotonicity of norms .....	117
8.4	Notes and references .....	120
<b>A</b>	<b>Appendices</b> .....	123
A.1	Non-symmetric means .....	123
A.2	Norm inequality for operator integrals .....	127
A.3	Decomposition of $\max\{s, t\}$ .....	131
A.4	Cesàro limit of the Fourier transform .....	136
A.5	Reflexivity and separability of operator ideals .....	137
A.6	Fourier transform of $1/\cosh^\alpha(t)$ .....	138
	<b>References</b> .....	141
	<b>Index</b> .....	145